

FIG. 1

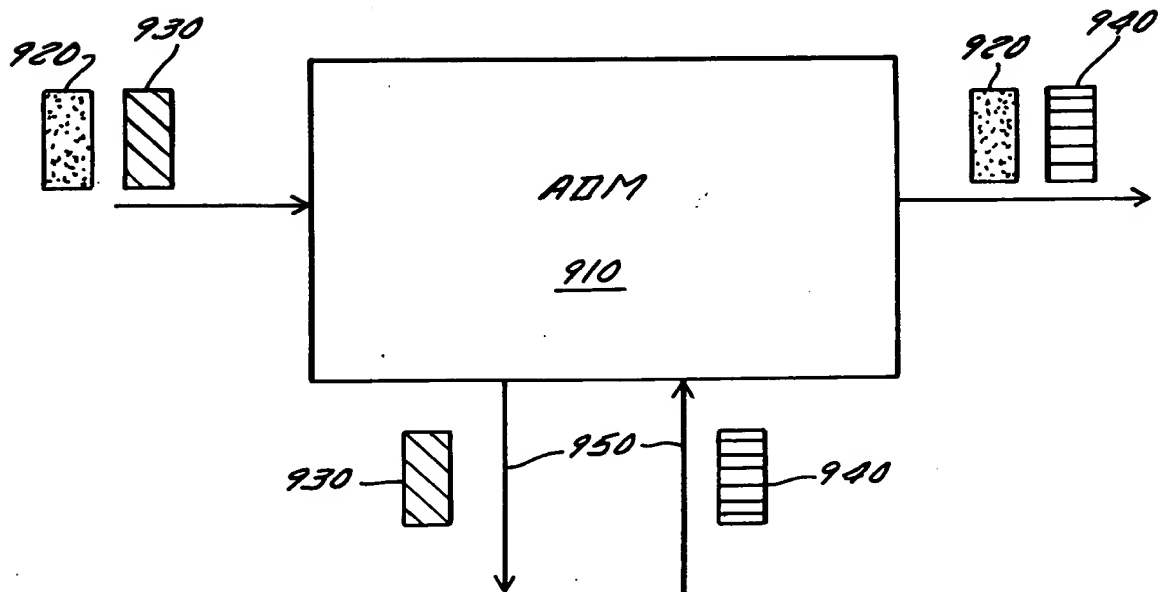


FIG. 9

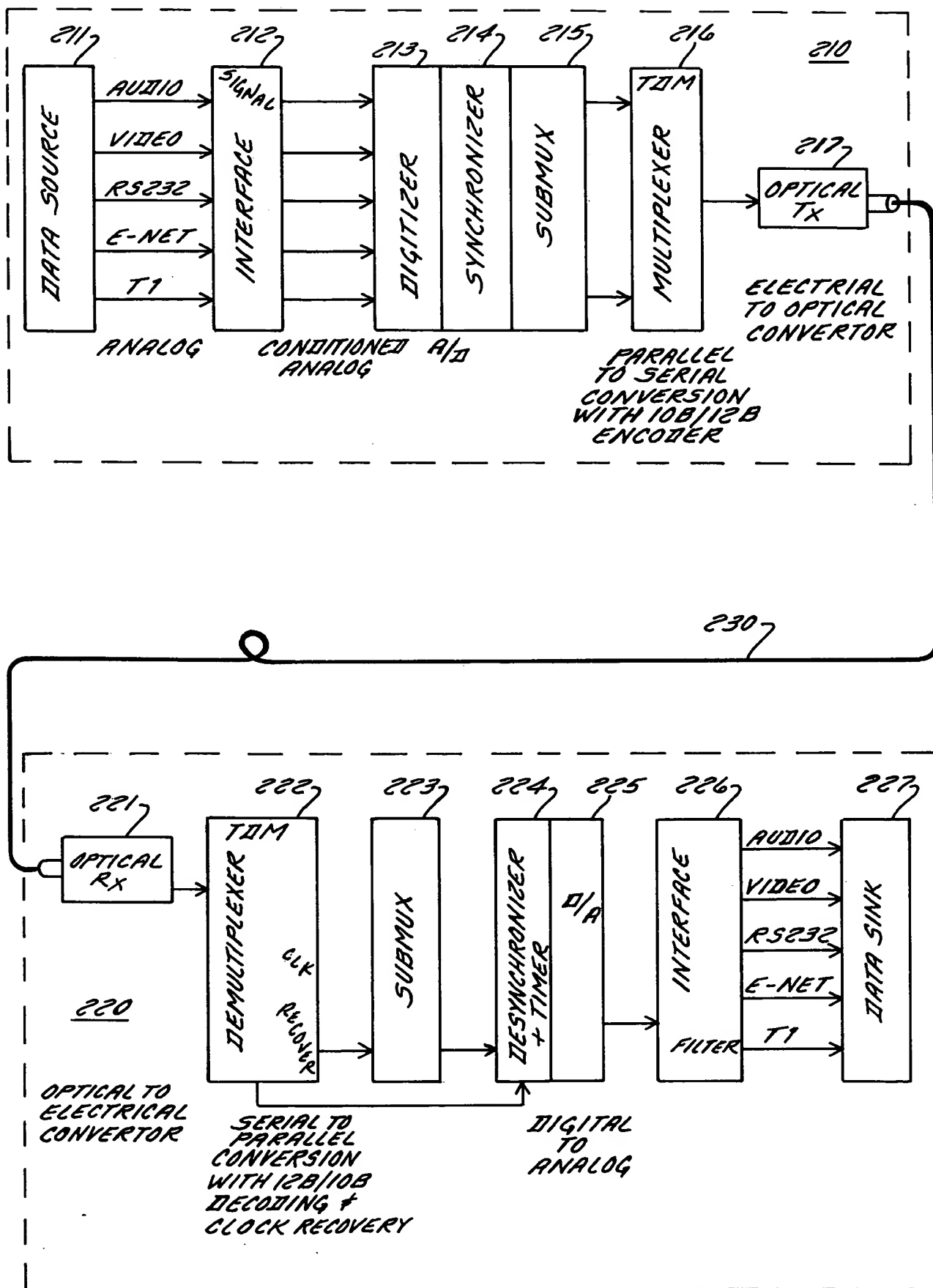


FIG. 2

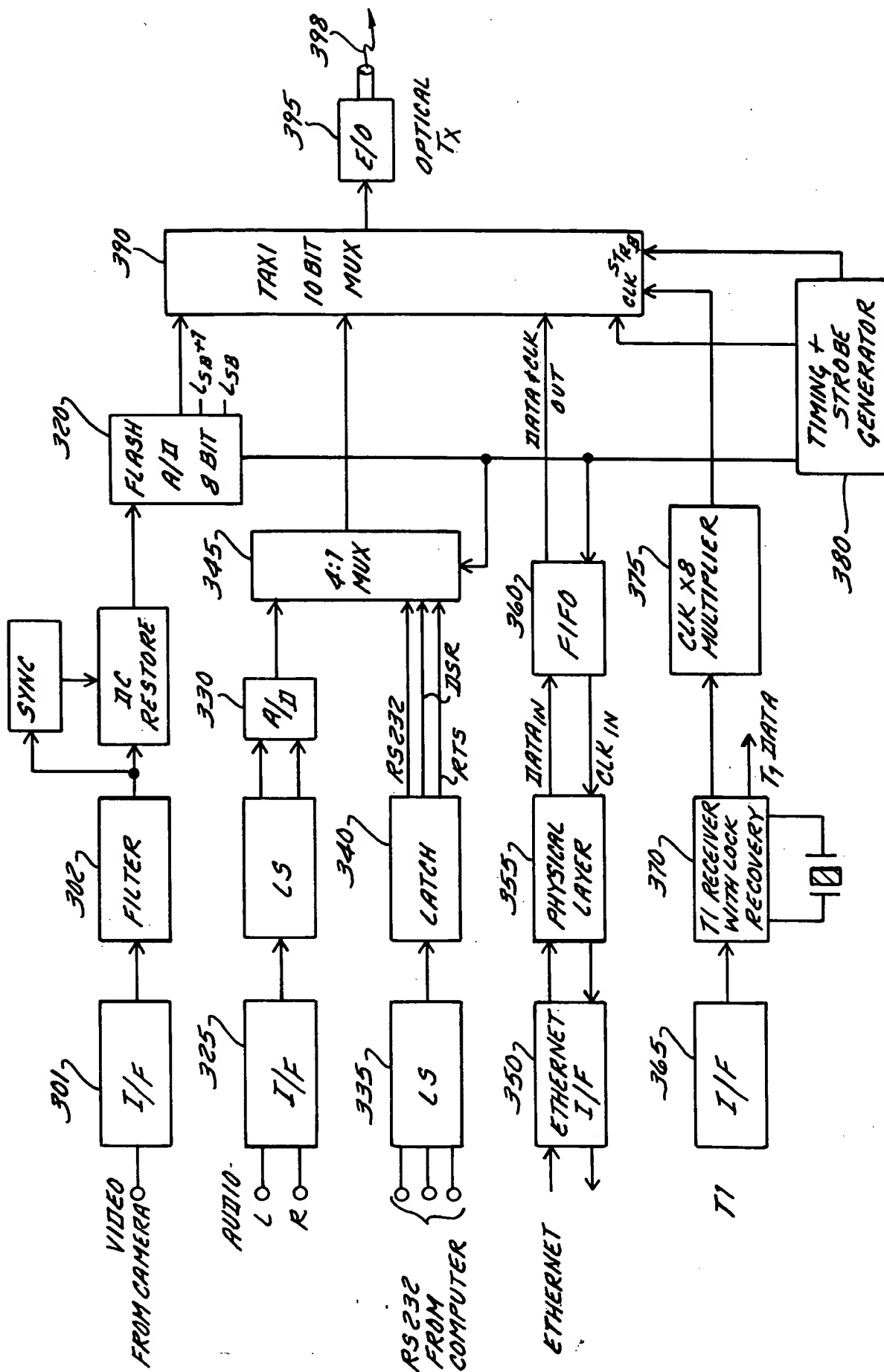


FIG. 3

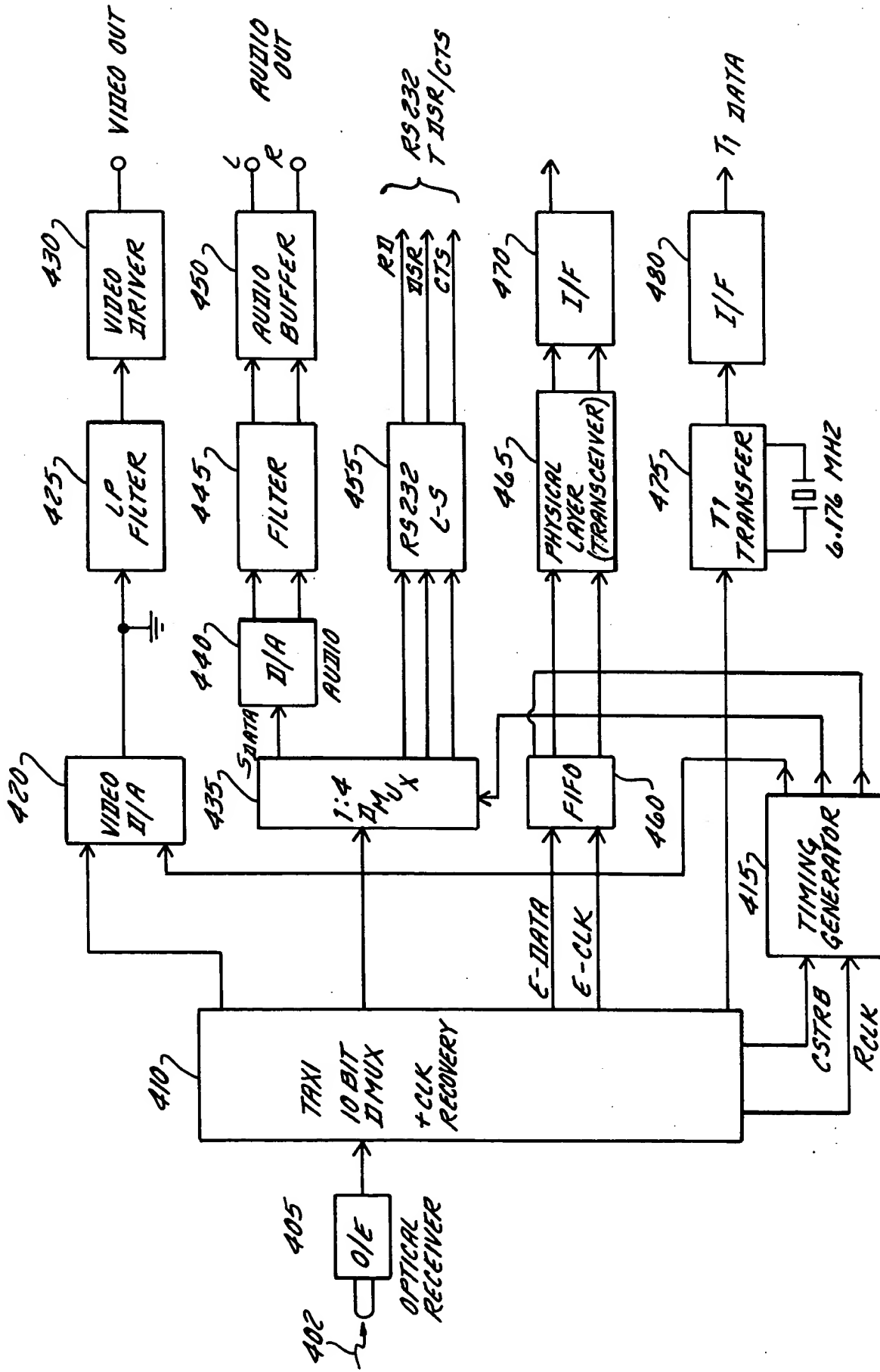


FIG. 4

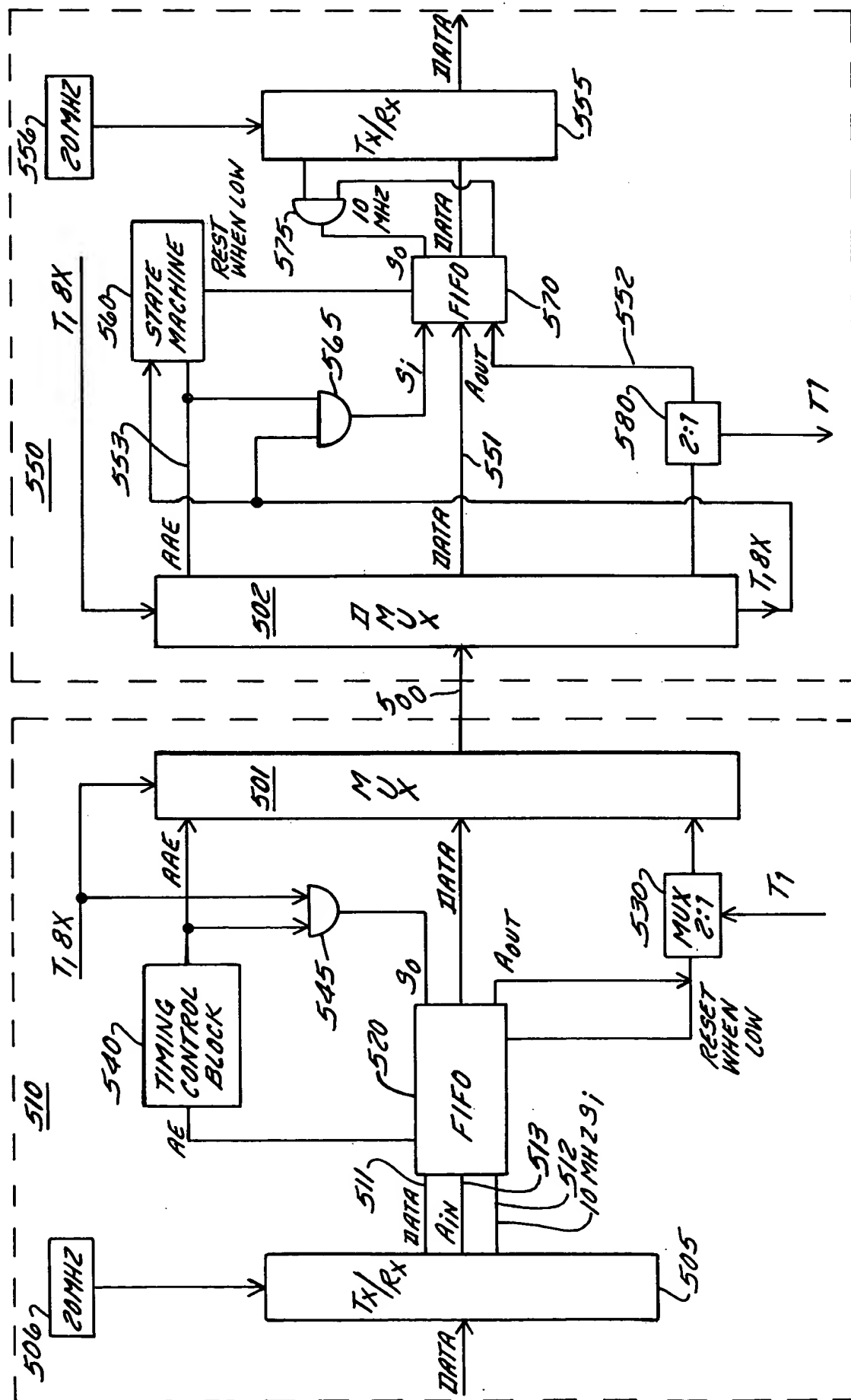


FIG. 5

09077970-020604

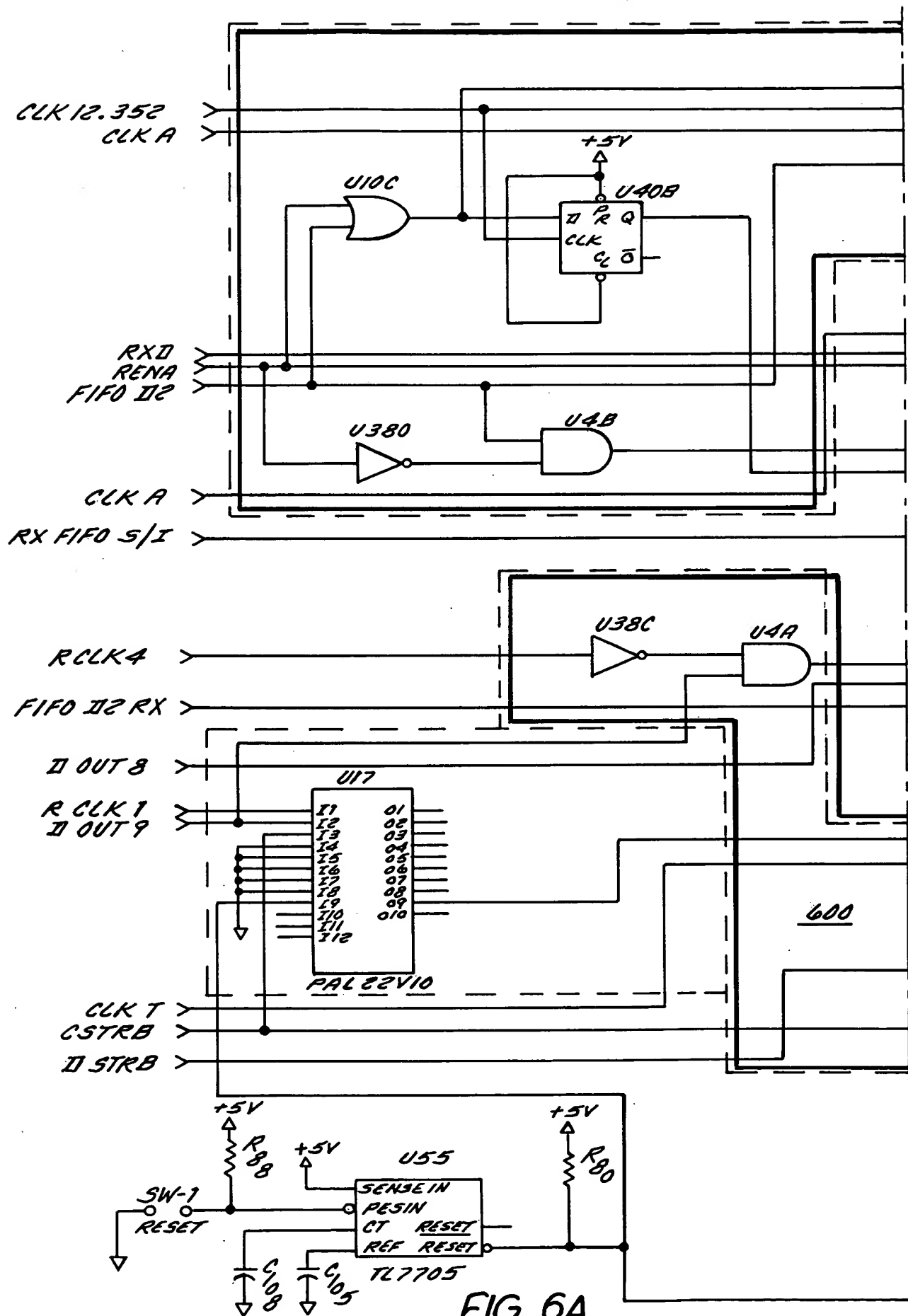


FIG. 6A

FIG. 6B

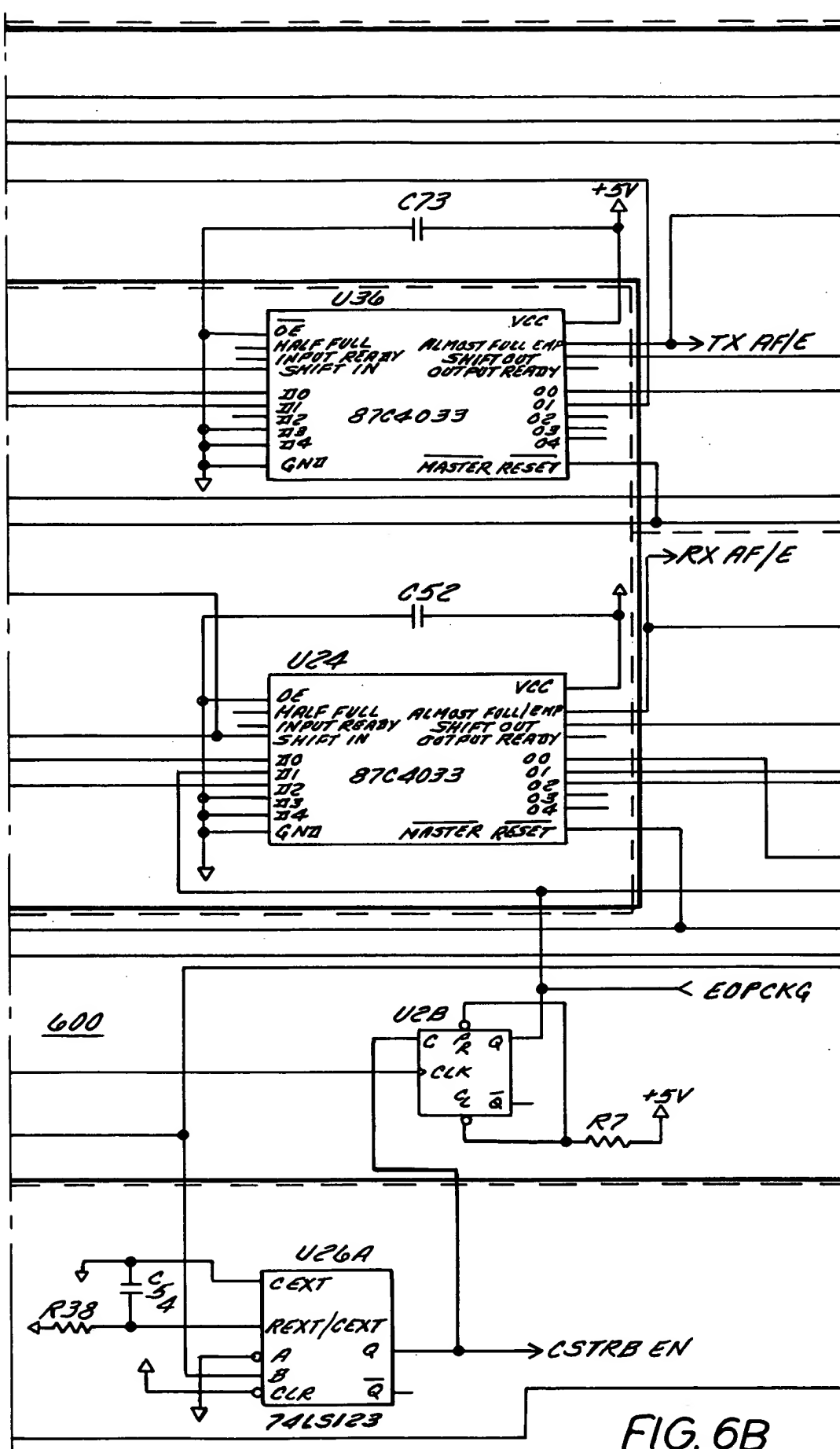


FIG. 6B

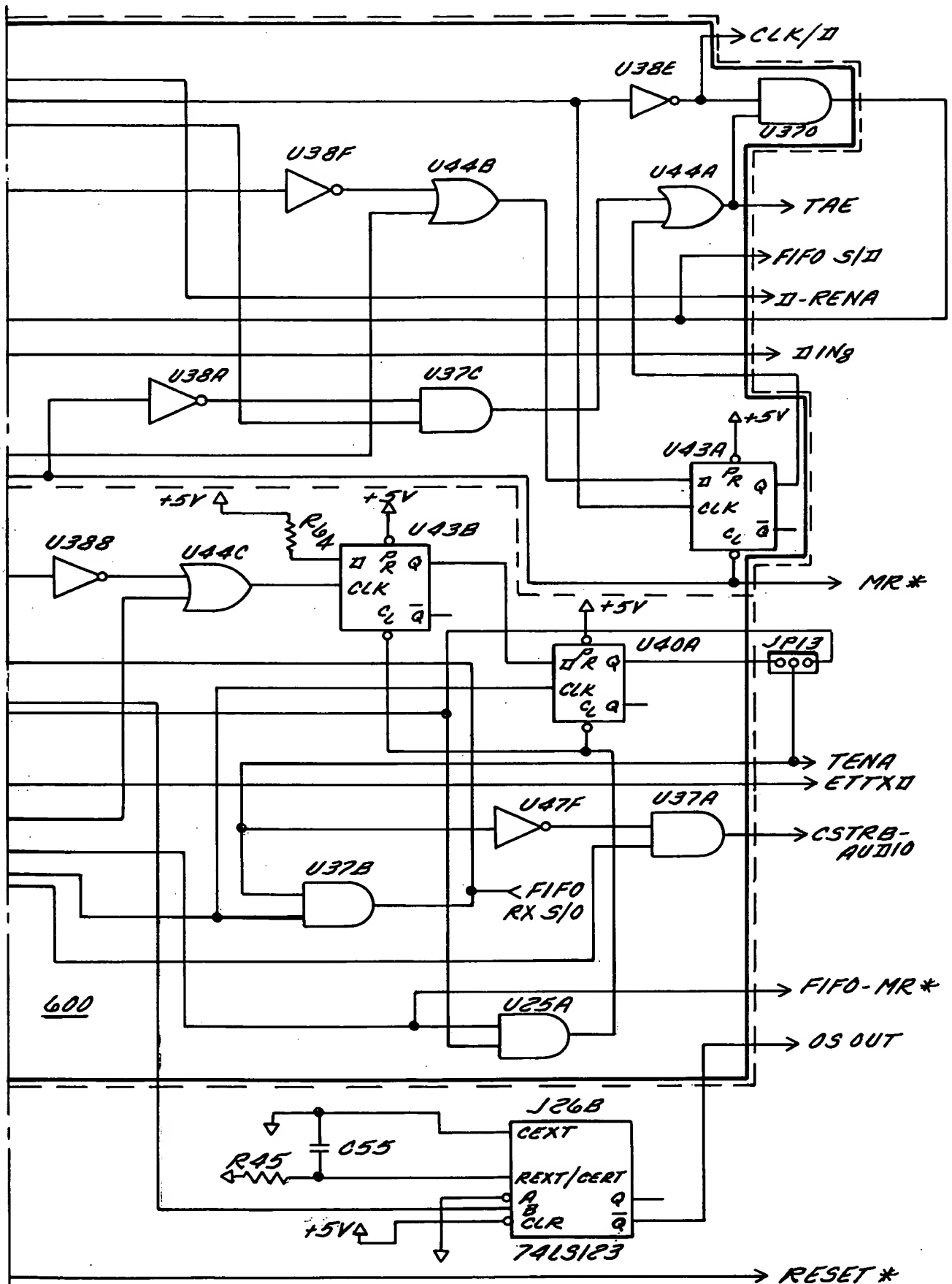


FIG. 6C

FIG. 7B

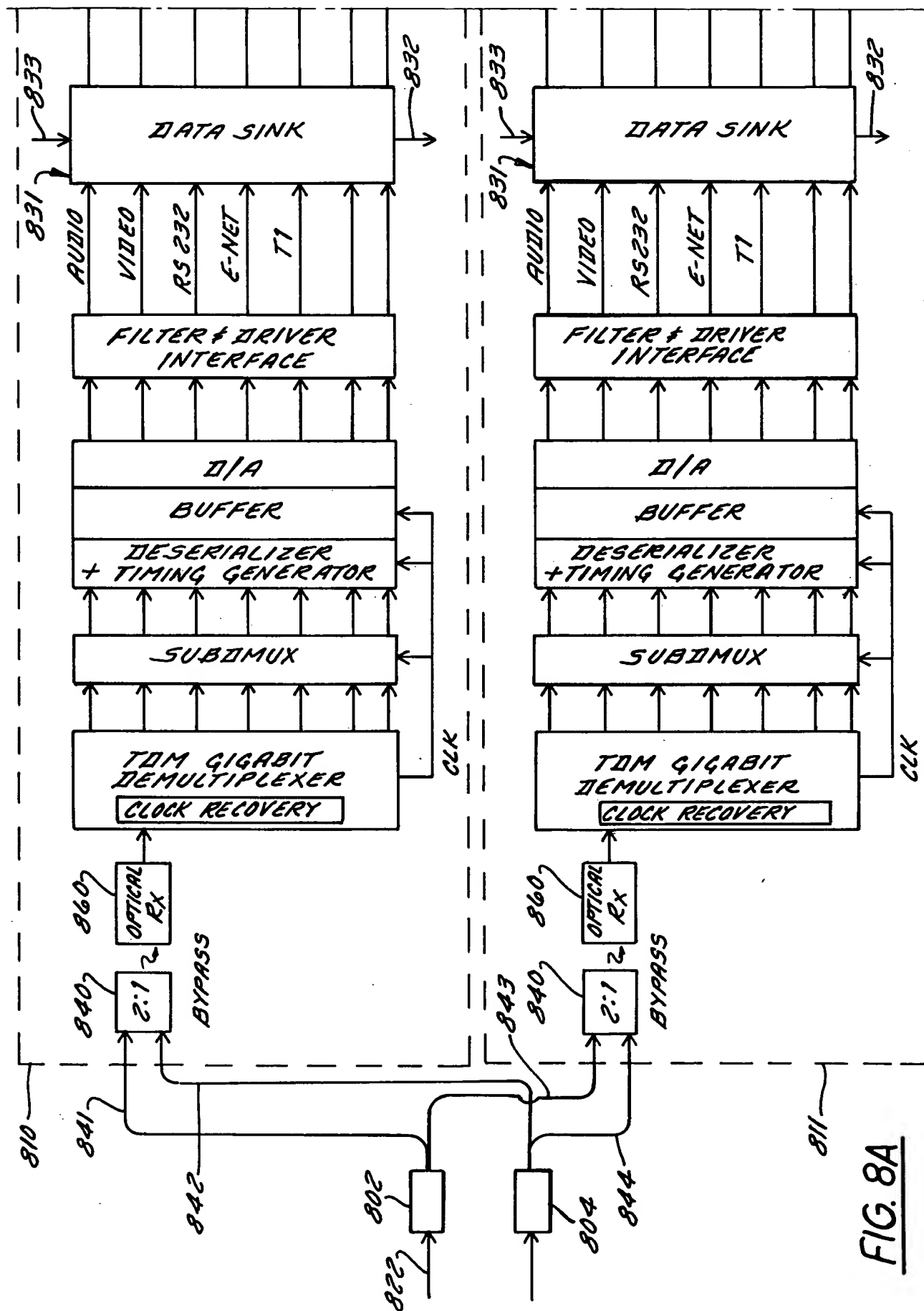
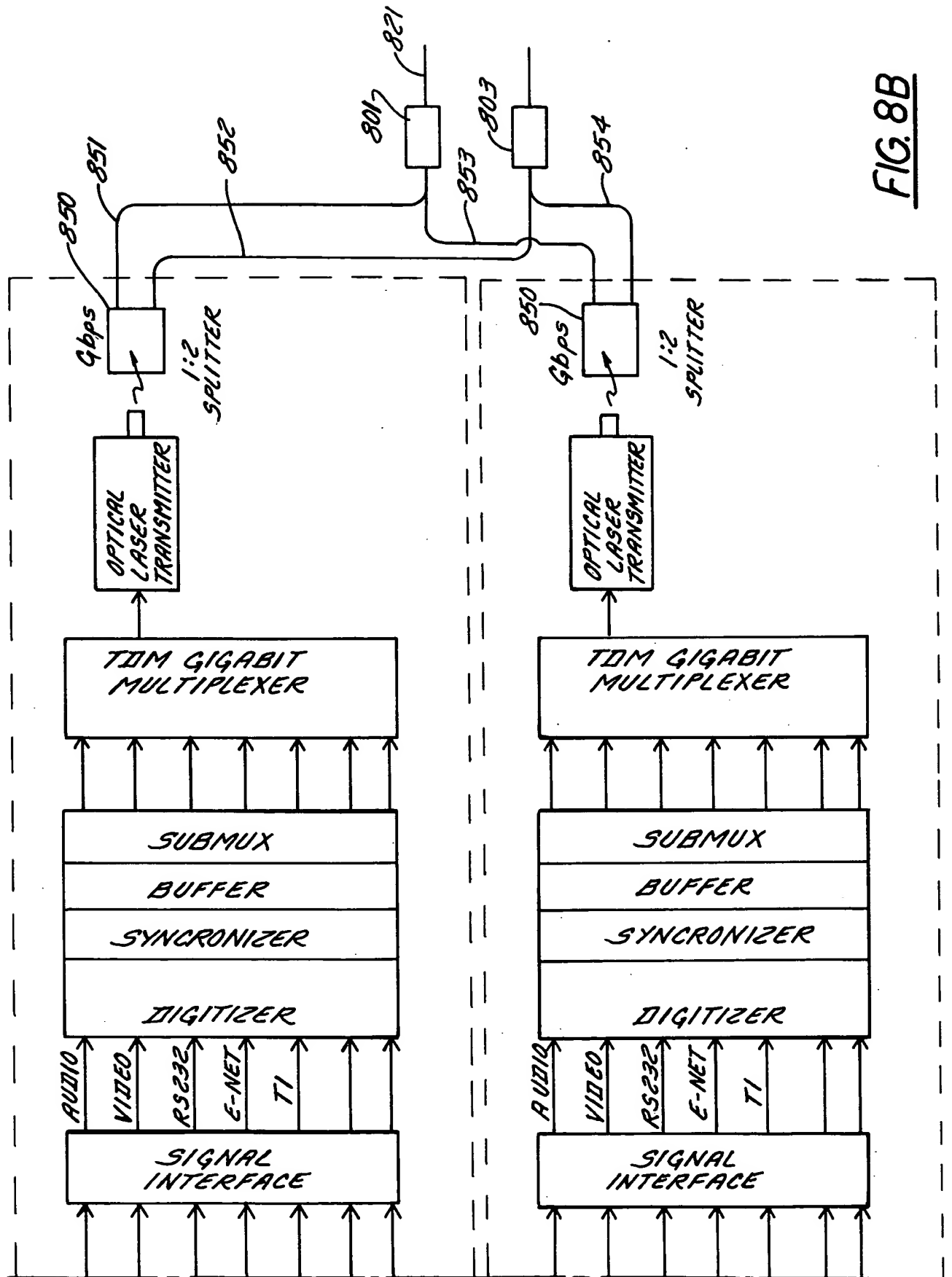


FIG. 8A



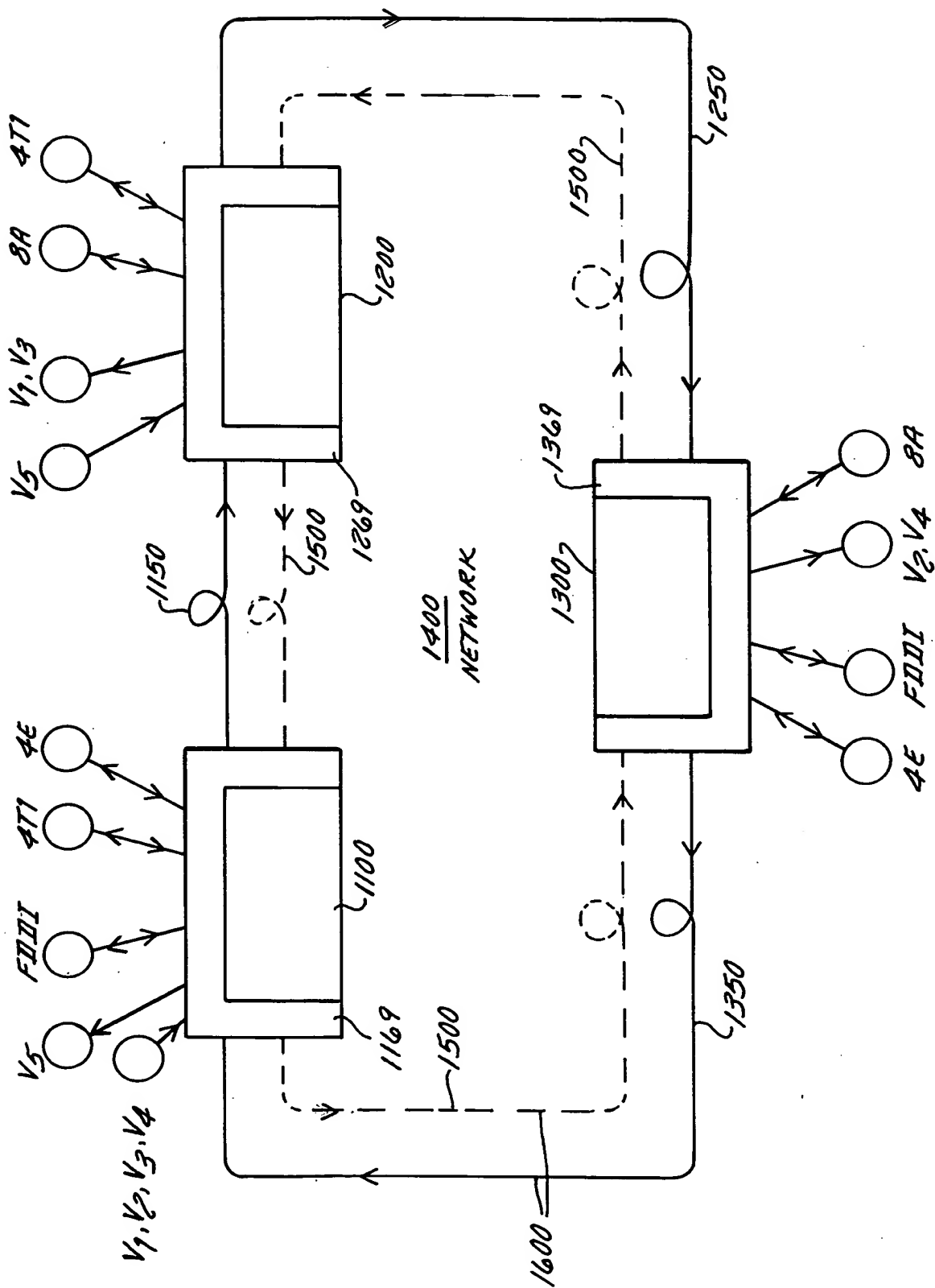
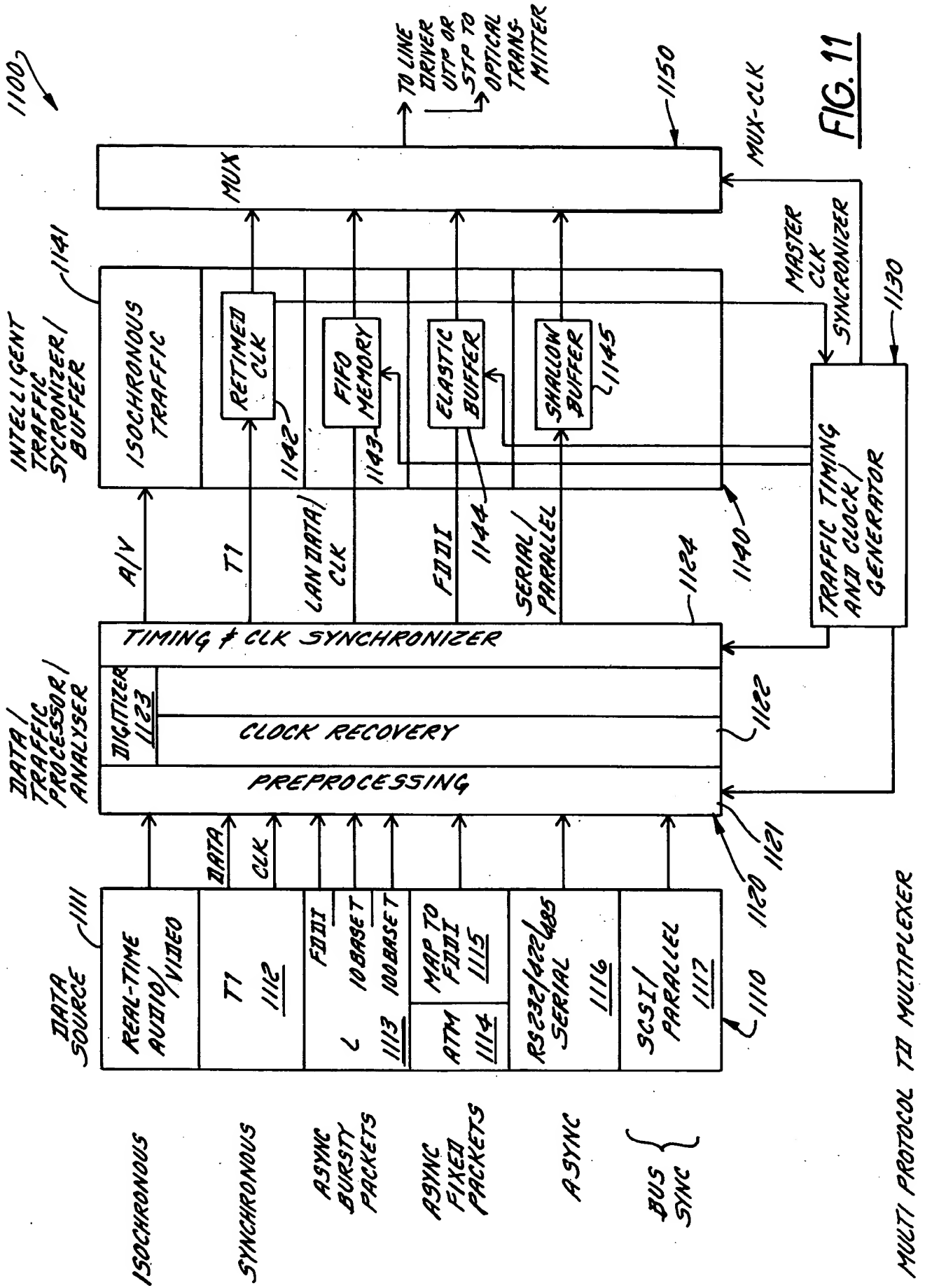


FIG. 10



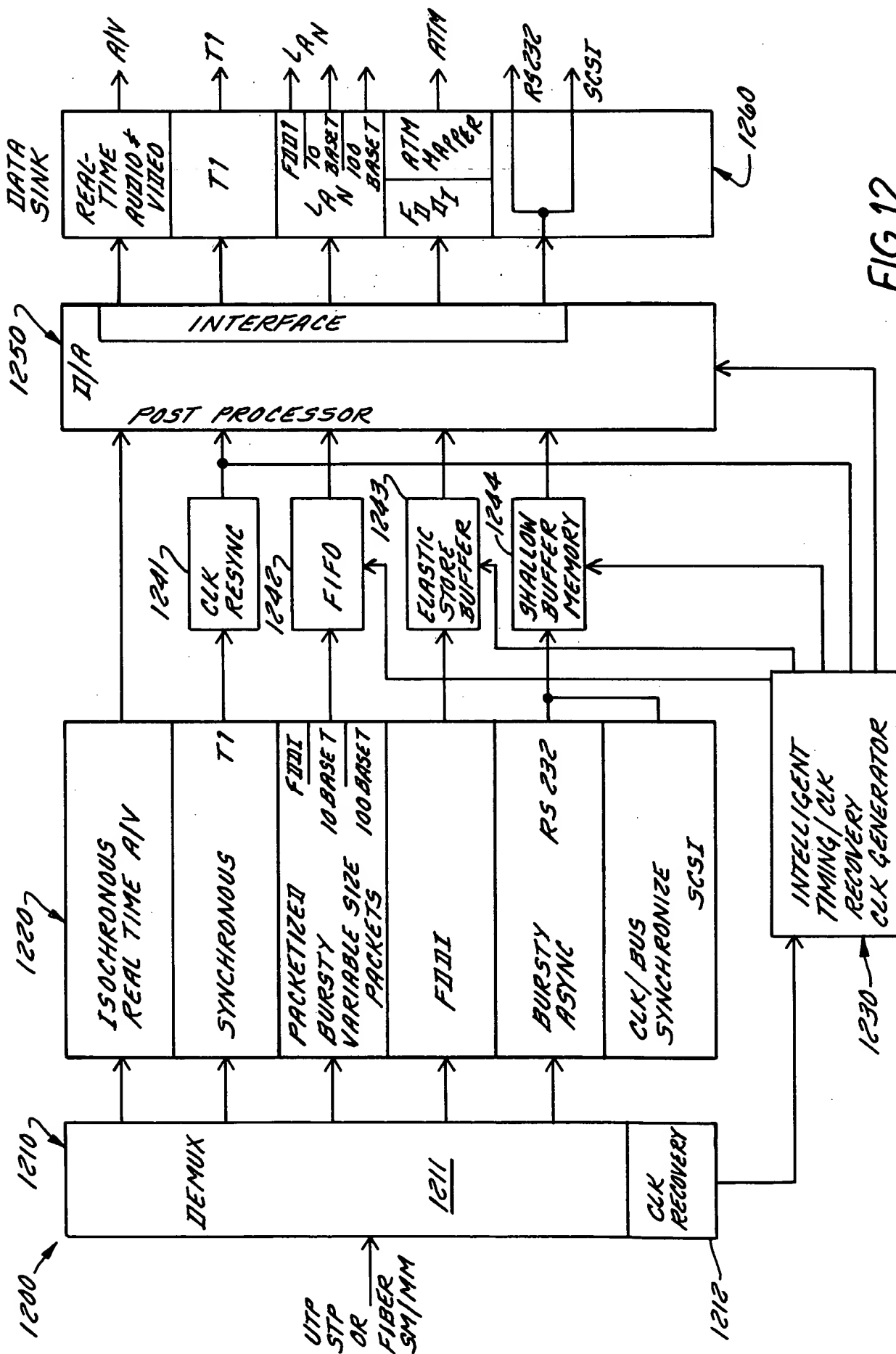


FIG. 12

DATA TYPE		MULTIPLEXER/ DEMULTIPLEXER INTERFACE REQUIREMENT	DATA RATE	TIMING SENSITIVITY
AUDIO/ VIDEO MULTIMEDIA		<ul style="list-style-type: none"> • CONTINUOUS SAMPLING • LOCK MATCHING • MINIMUM BUFFERING 	VARIABLE BIT RATE IN COMPRESSED MODE UNCOMPRESSED DEPENDS ON RESOLUTION & SAMPLING RATE	AUDIO/ VIDEO SYNCHRON- IZATION
RS232/422/485 SERIAL ASYNCHRONOUS		CAN USE BUFFER OR LOW SPEEDS	VARIABLE 10kb/s → 10Mb/s VARIABLE → 40 MBYTE/s	BAUD RATES NEED MATCHING -----
	SCSI PARALLEL	USE OVERSAMPLING		INTERLOCKED HANDSHAKE BUS TIMING SYNCHRON- IZATION
	BUS SYNCHRONIZED	REQUIRE FIFO MEMORY		
T1		NEED DIRECT MATCHING OF T1 CLK WITH MUX SYNCHRONIZATION OF MASTER CLOCK	1.544 Mb/s	CLOCK/RECOVERY VERY STRICT TIMING REQUIRE CLK 1.544 ± 32 PPM
LAN NET- WORK	FDDI	NEED CLOCK RECOVERY	100 Mb/s	CLOCK RECOVERY REQUIRED ELASTIC BUFFER
	10 BASE T	MINIMUM BUFFER AND STRICT DATA RATE MATCHING USING SHALLOW FIFO	10 Mb/s	CLOCK RECOVERY NEEDED
	100 BASE T		100 Mb/s	CLOCK RECOVERY NEEDED
WIDE AREA ST1/ST3 ATM		PRECISE NEED CLOCK RECOVERY AND DEFRAMING WITH TRANSFER TO PACKET	51.84/155.5 OC1/OC3 Mb/s	TIME/STAMP REQUIREMENT CLOCK CORRECTION

FIG. 13A

<i>DELAY/LATENCY SENSITIVITY</i>	<i>TRAFFIC TYPE</i> <i>DATA STREAM</i>	<i>APPLICATIONS</i>	<i>REMARKS TYPE OF CHANNEL</i>
<i>CONSTANT FOR MINIMUM JITTER</i>	<i>CONSTANT BIT RATE LAMINAR BIT STREAM</i>	<i>MULTIMEDIA TELECONFERENCING VIDEO CONFERENCING SECURITY</i>	<i>ISOCHRON- OUS</i>
<i>JITTER REQUIREMENT (NOT VERY TIGHT)</i>	<i>VARIABLE BIT RATE</i>	<i>COMPUTER TO COMPUTER / PERIPHERAL COMPUTER TO MEMORY</i>	<i>ASYNCHRO- NOUS BUS SYNCHRO- NOUS</i>
<i>MINIMUM JITTER REQUIREMENT FOR VOICE MIN. ACCEPTABLE LATENCY ~ 150 ms</i>	<i>CONSTANT BIT RATE</i>	<i>TELEPHONY WIDE AREA</i>	<i>SYNCHRON- OUS</i>
<i>MAX. ELASTICITY FUNCTION OF NET- WORK/TOKEN ROTATING TIMES</i>	<i>BURSTY ASYNCHRONOUS PACKETIZED</i>	<i>OPTICAL NET- WORK IN BACKBONES</i>	<i>BURSTY PACKETIZED</i>
<i>COLLISION DOMAIN LIMITED</i>	<i>ASYNCHRONOUS</i>	<i>LAN</i>	<i>ASYNCHRON- OUS</i>
<i>COLLISION DOMAIN LIMITED</i>	<i>ASYNCHRONOUS</i>	<i>LAN</i>	<i>ASYNCHRON- OUS</i>
<i>VARIABLE LATENCY DEPENDING ON TRAFFIC MIN. LATENCY AND JITTER REQUIREMENT FOR VOICE/TELE- PHONE AND MULTI- MEDIA TRAFFIC</i>	<i>VBR: VARIABLE BIT RATE CBR: CONSTANT BIT RATE ABR: AVAILABLE BIT RATE ASYNCHRONOUS TRANSFER MODE ASYNCHRONOUS</i>	<i>WIDE AREA NETWORK</i>	<i>CAN MAP ATM CELLS TO FDDI PACKETS AND THE TRANSFER SYNCHRON- OUSLY</i>

FIG. 13B

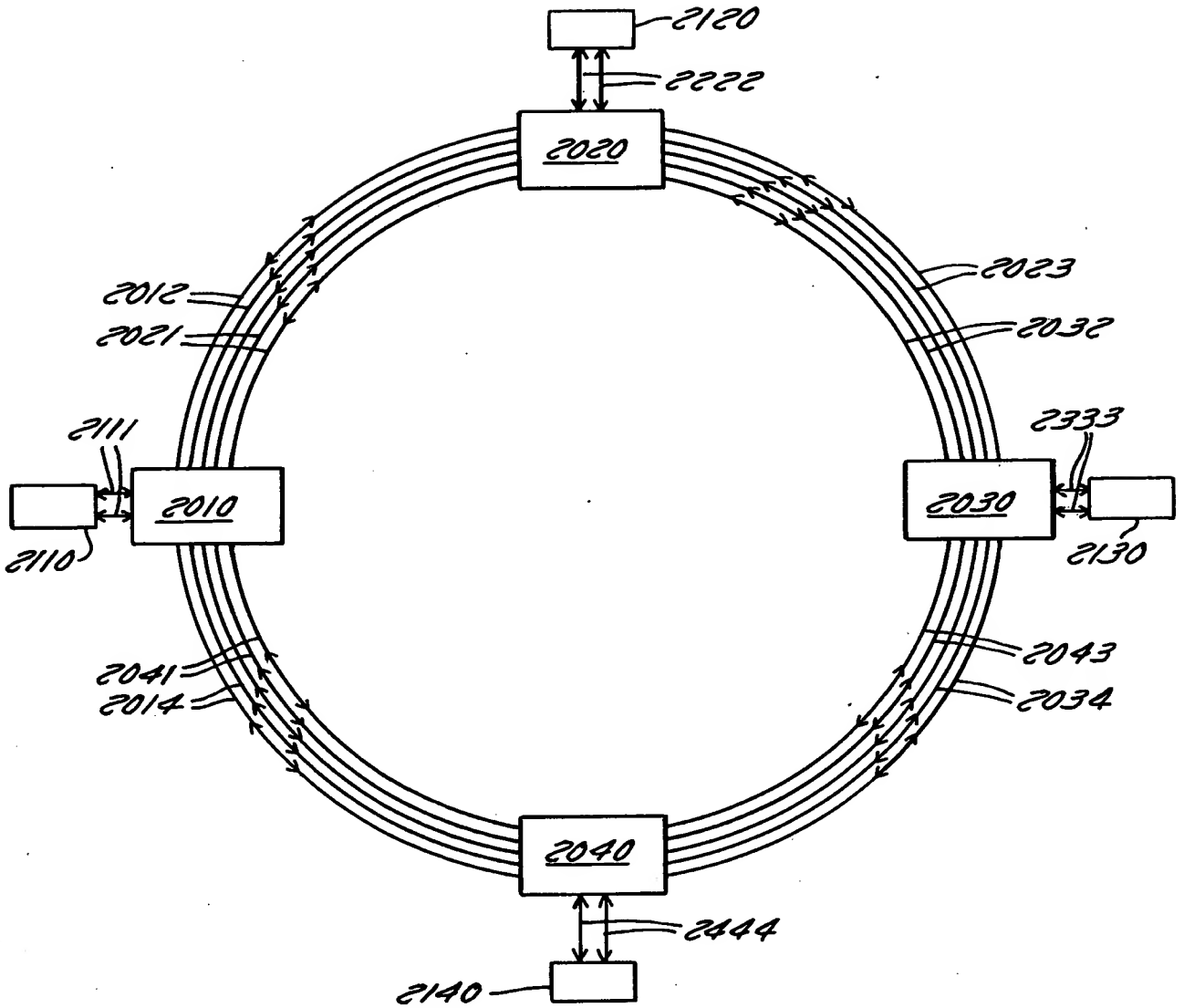


FIG. 14

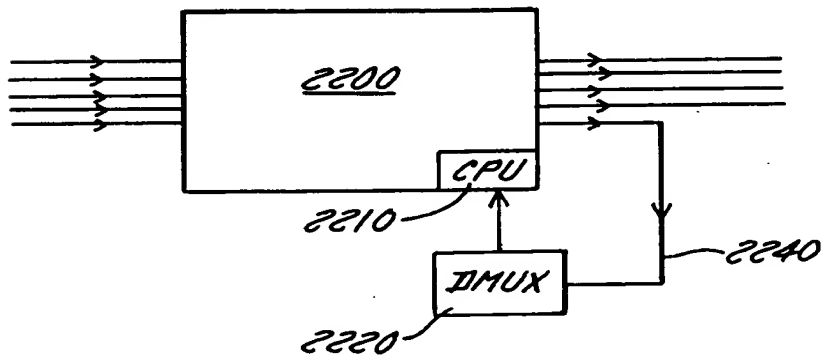


FIG. 15

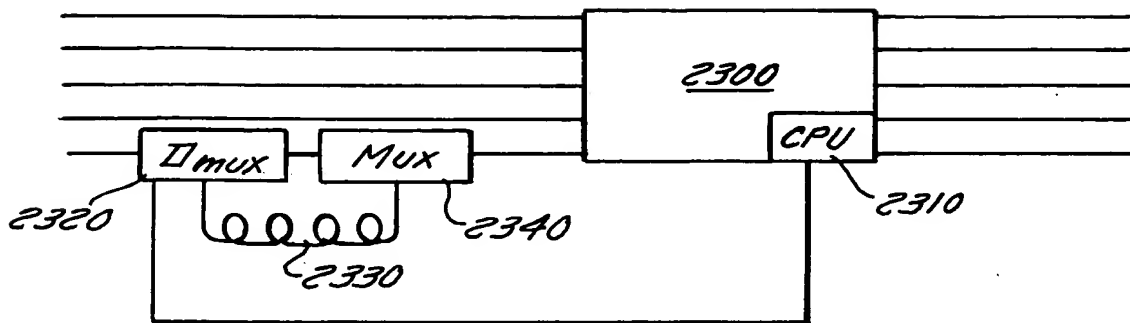


FIG. 16

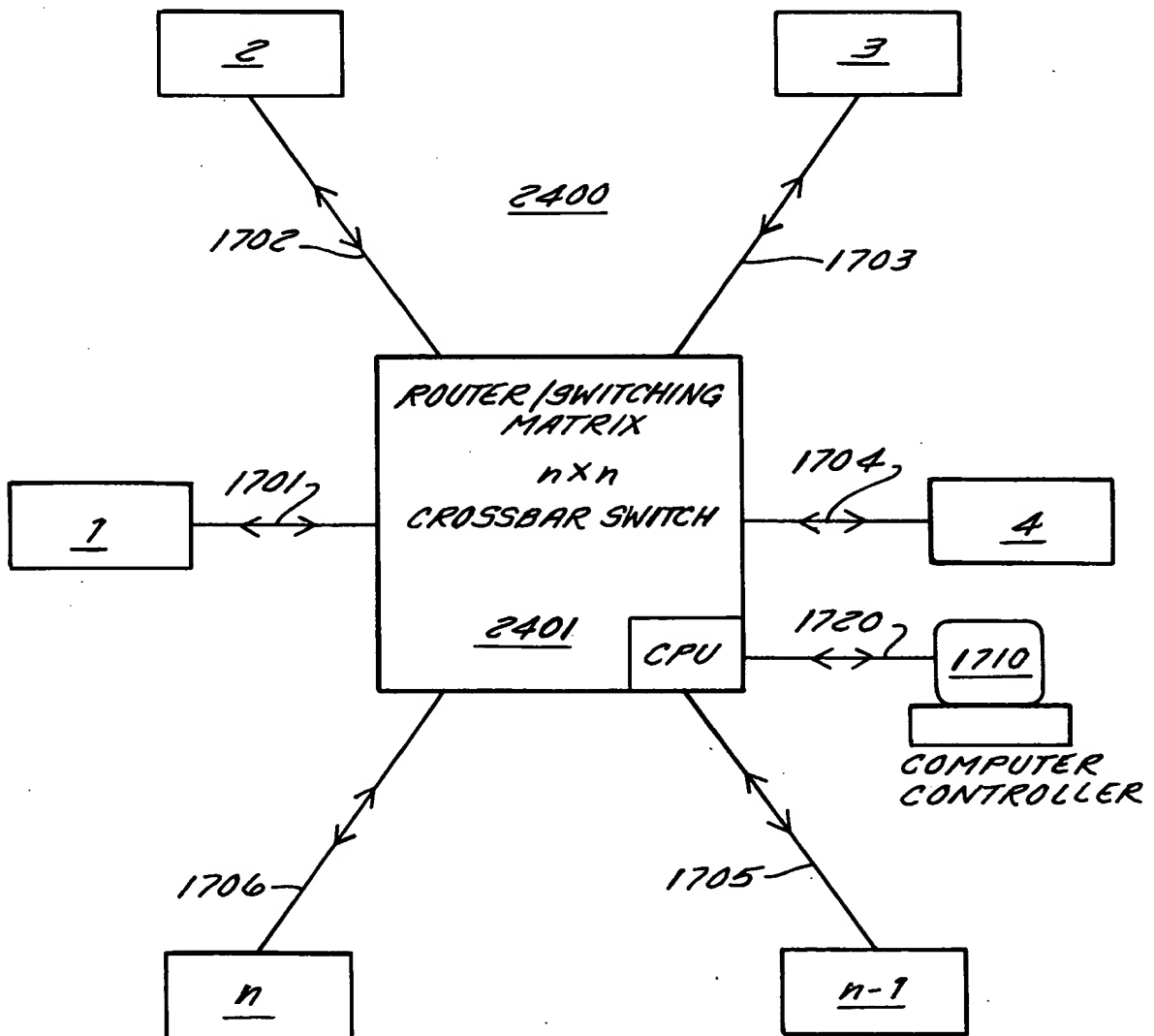


FIG. 17

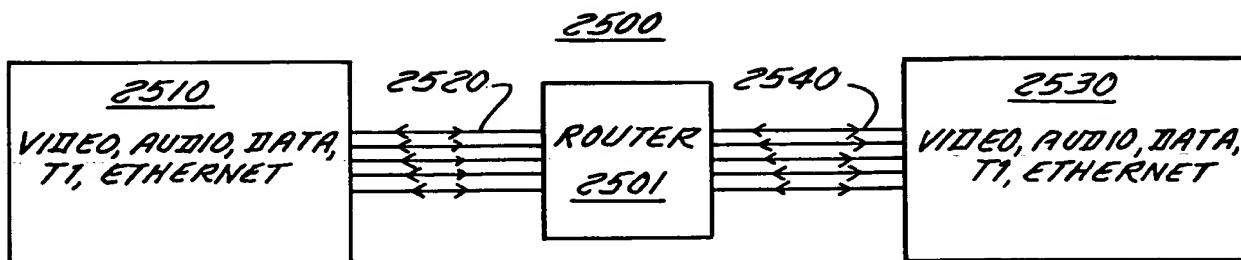


FIG. 18

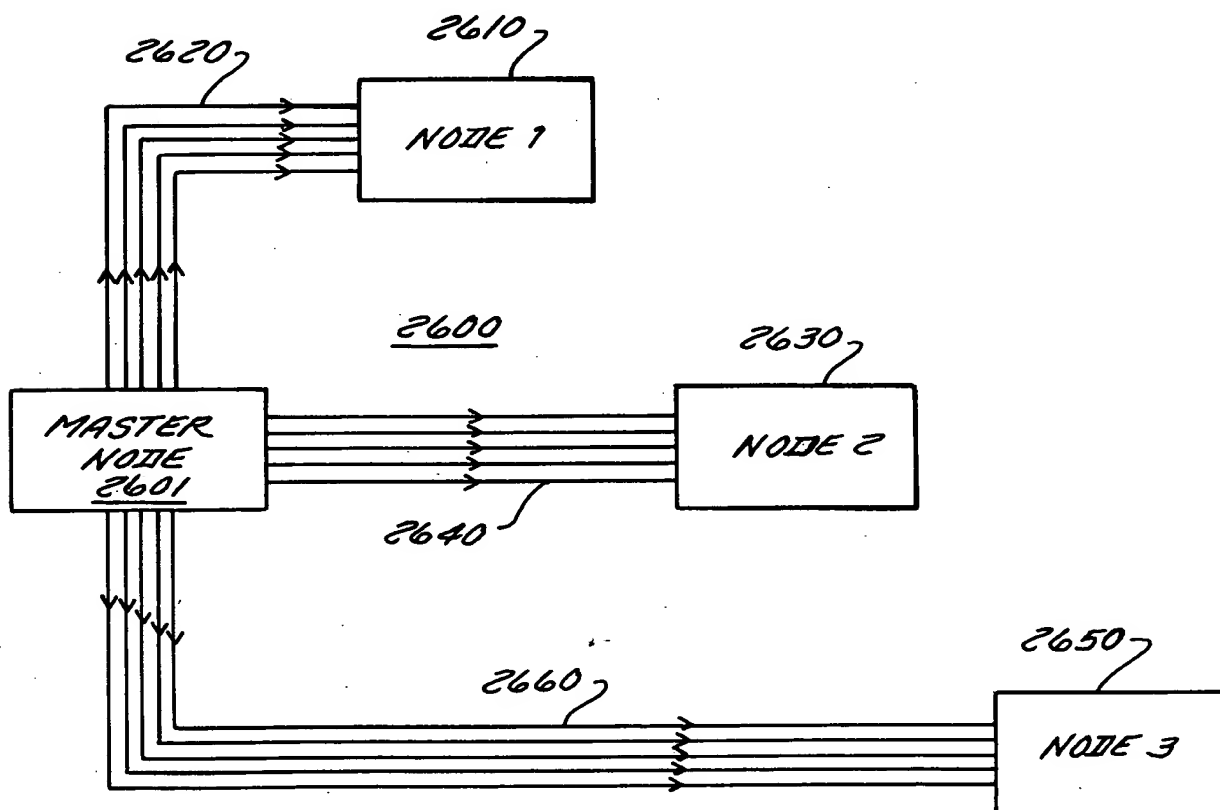


FIG. 19

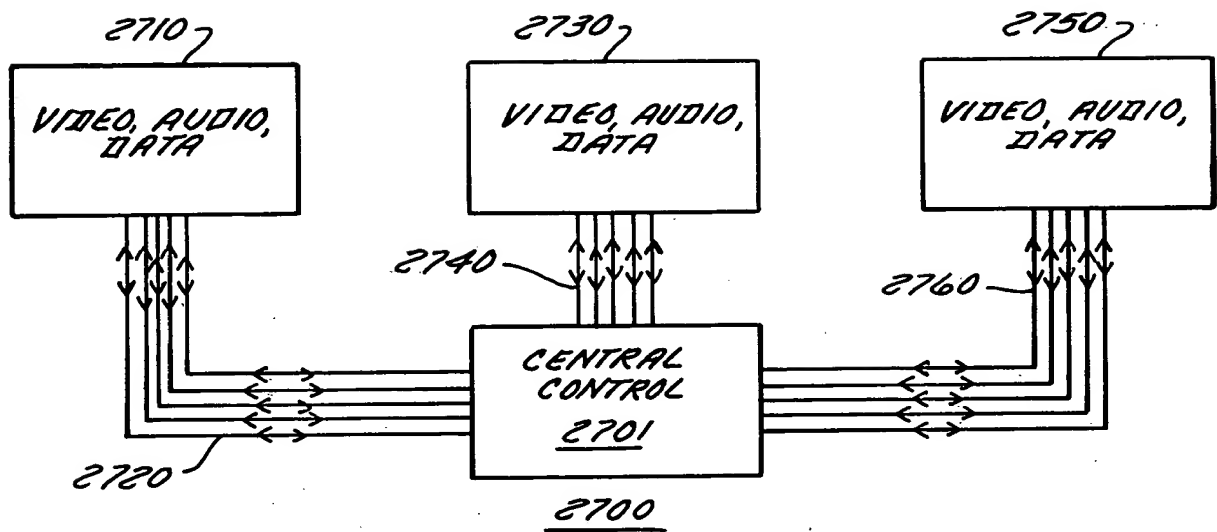


FIG. 20

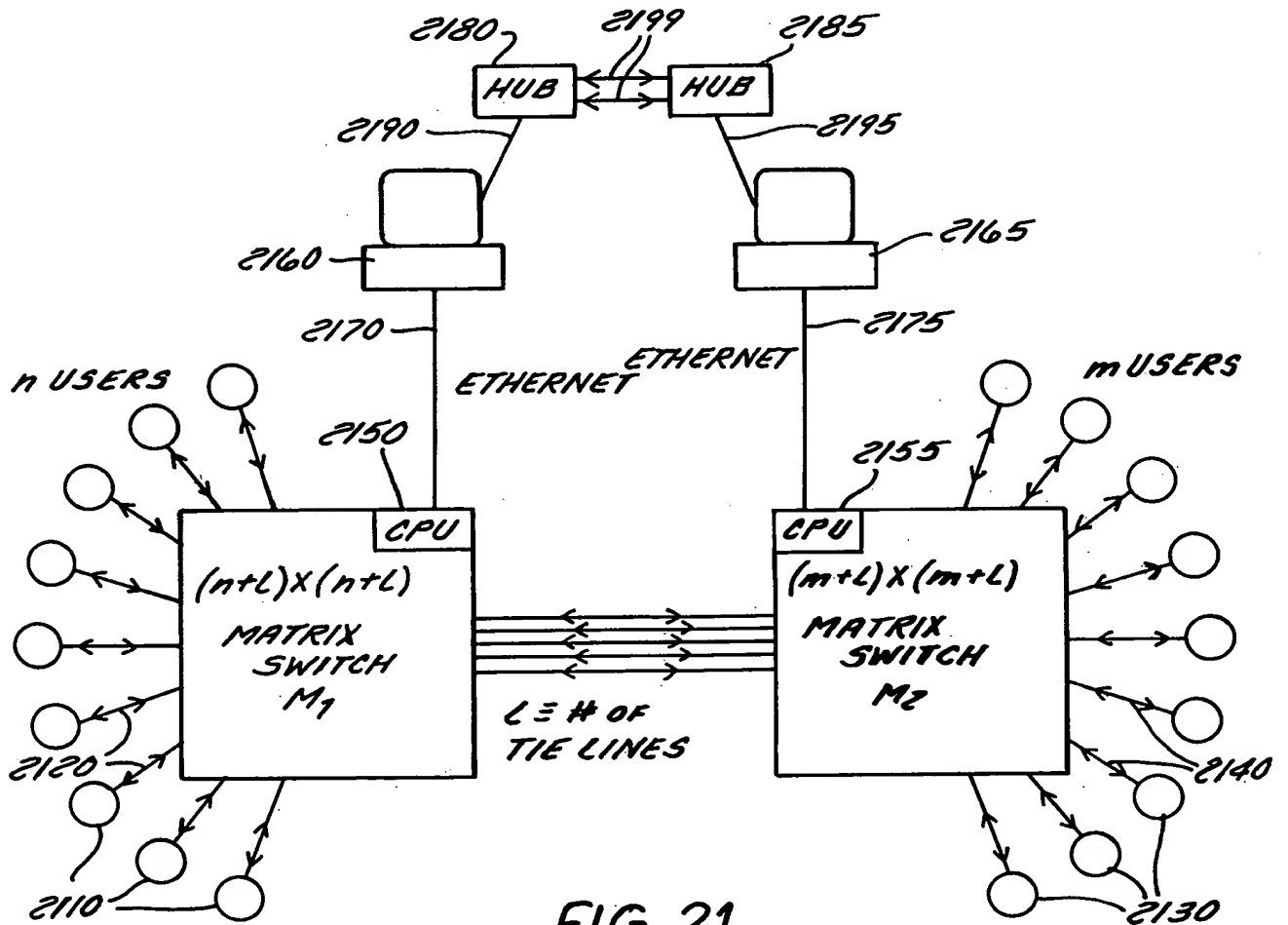


FIG. 21

Diagram illustrating the West-North coordinate system for a grid of points. The grid is defined by four vertical lines labeled U_1, U_2, U_3, U_4 at the top, and four horizontal lines labeled U_1, U_2, U_3, U_4 on the left. The intersection points are categorized into "OPEN CROSS-POINT" and "CLOSE CROSS-POINT". The "CLOSE CROSS-POINT" are marked with dots at the intersections of $U_1-U_2, U_2-U_3, U_3-U_4, U_1-U_2, U_2-U_3, U_3-U_4$. The "OPEN CROSS-POINT" is at the intersection of U_4-U_5 . Arrows indicate the direction of the lines, and the text "(WEST-NORTH)" is written at the bottom right.

(SOUTH-WEST)

	A_{11}	A_{12}	A_{13}	A_{14}
$U_1 \leftarrow$		●		
$U_2 \leftarrow$	A_{21}	A_{22}	●	A_{24}
$U_3 \leftarrow$	●	A_{32}	A_{33}	A_{34}
$U_4 \leftarrow$	A_{41}	A_{42}	A_{43}	●

U_1 U_2 U_3 U_4

FIG. 23

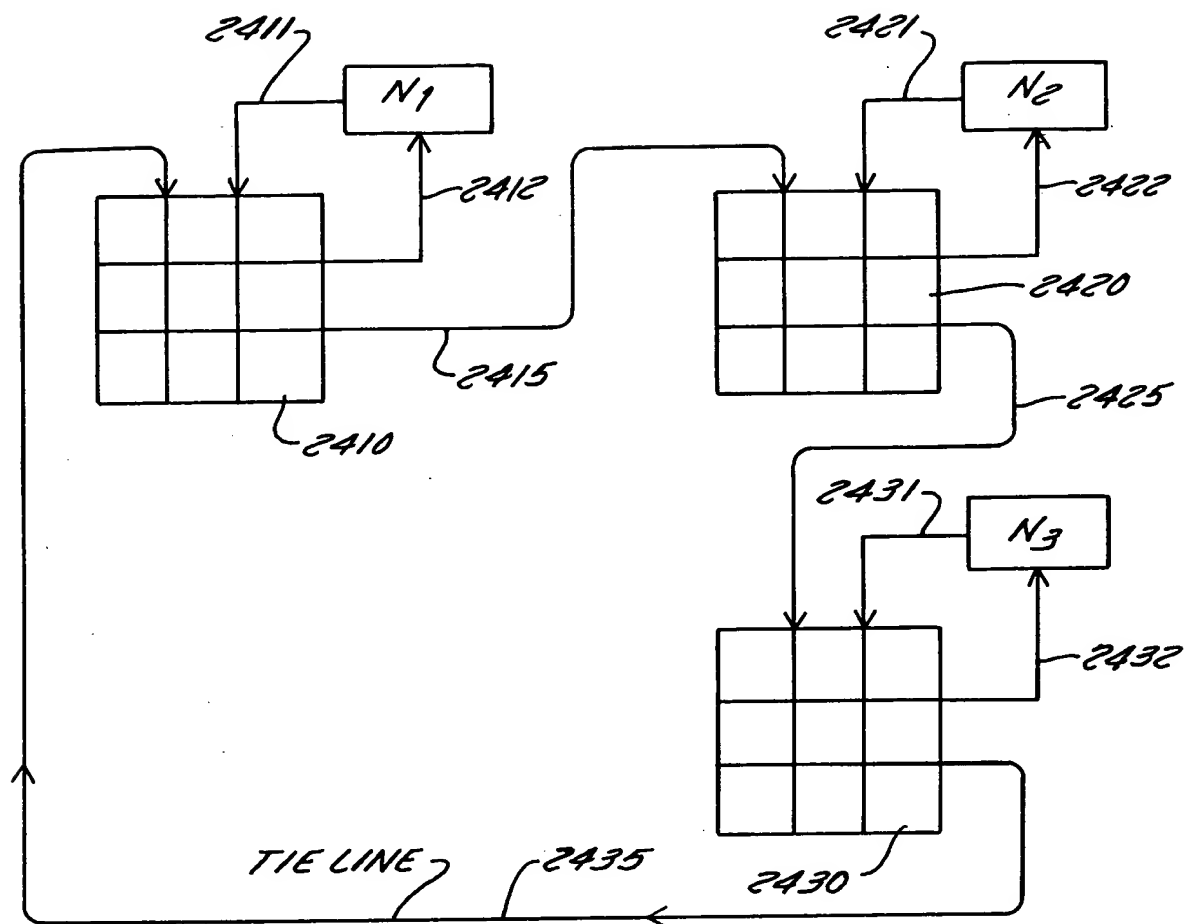


FIG. 24

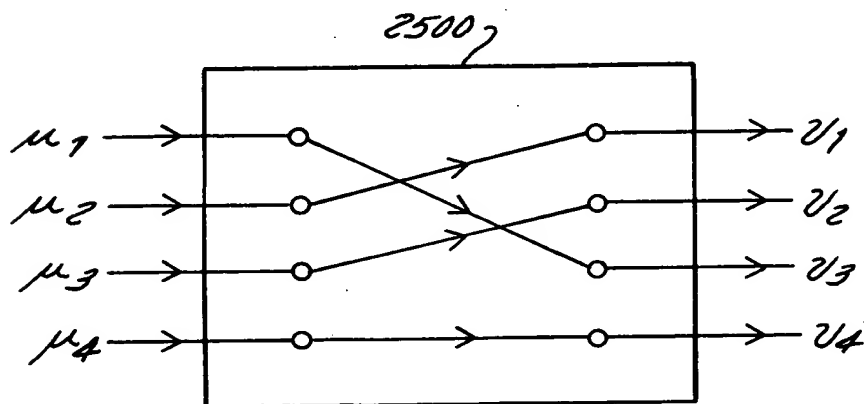


FIG. 25

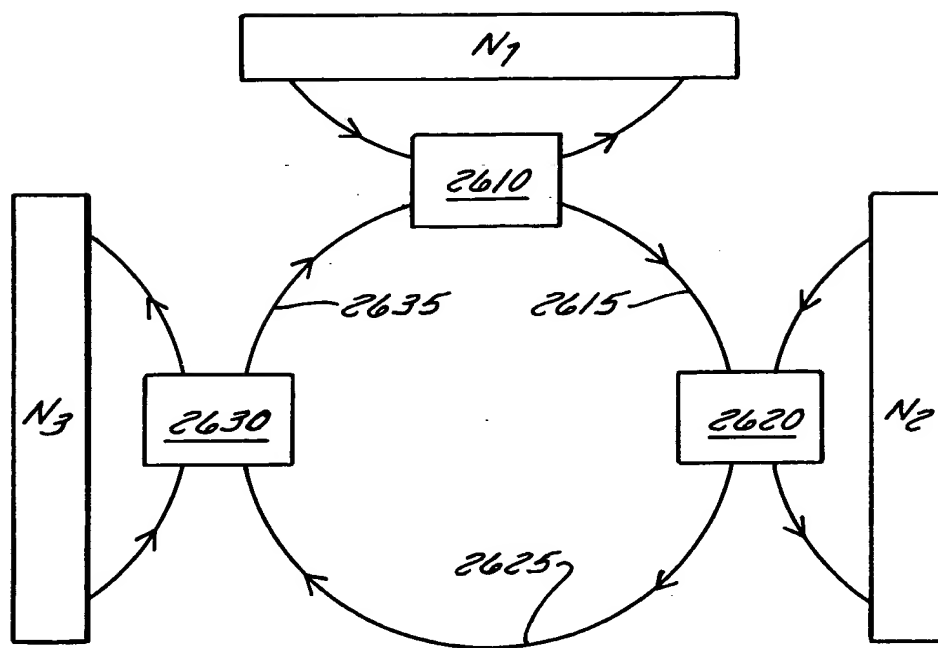


FIG. 26

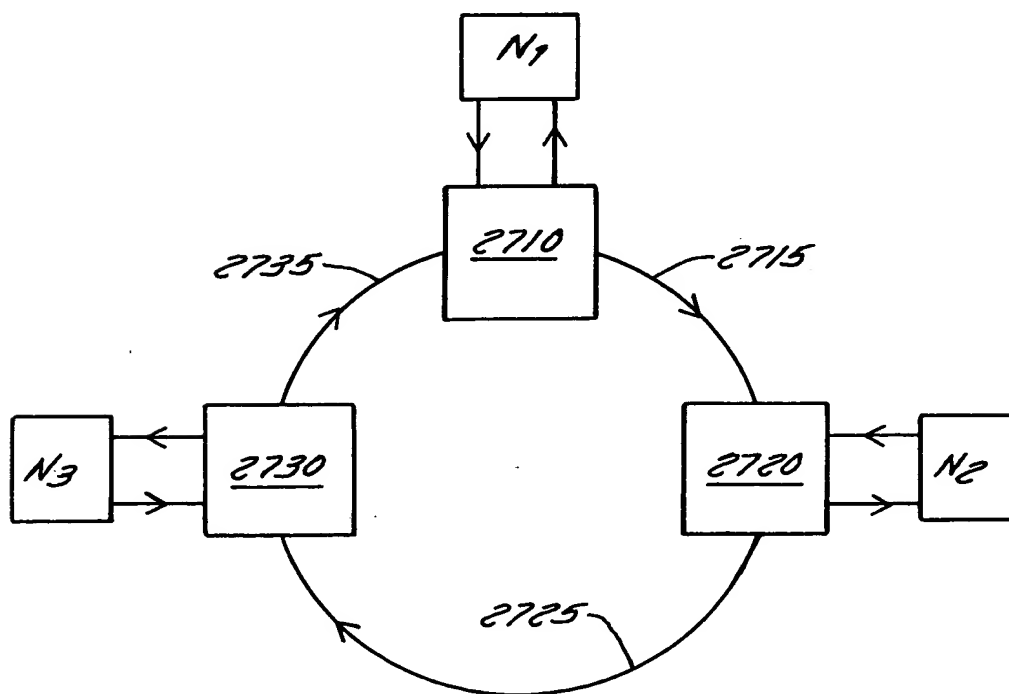


FIG. 27

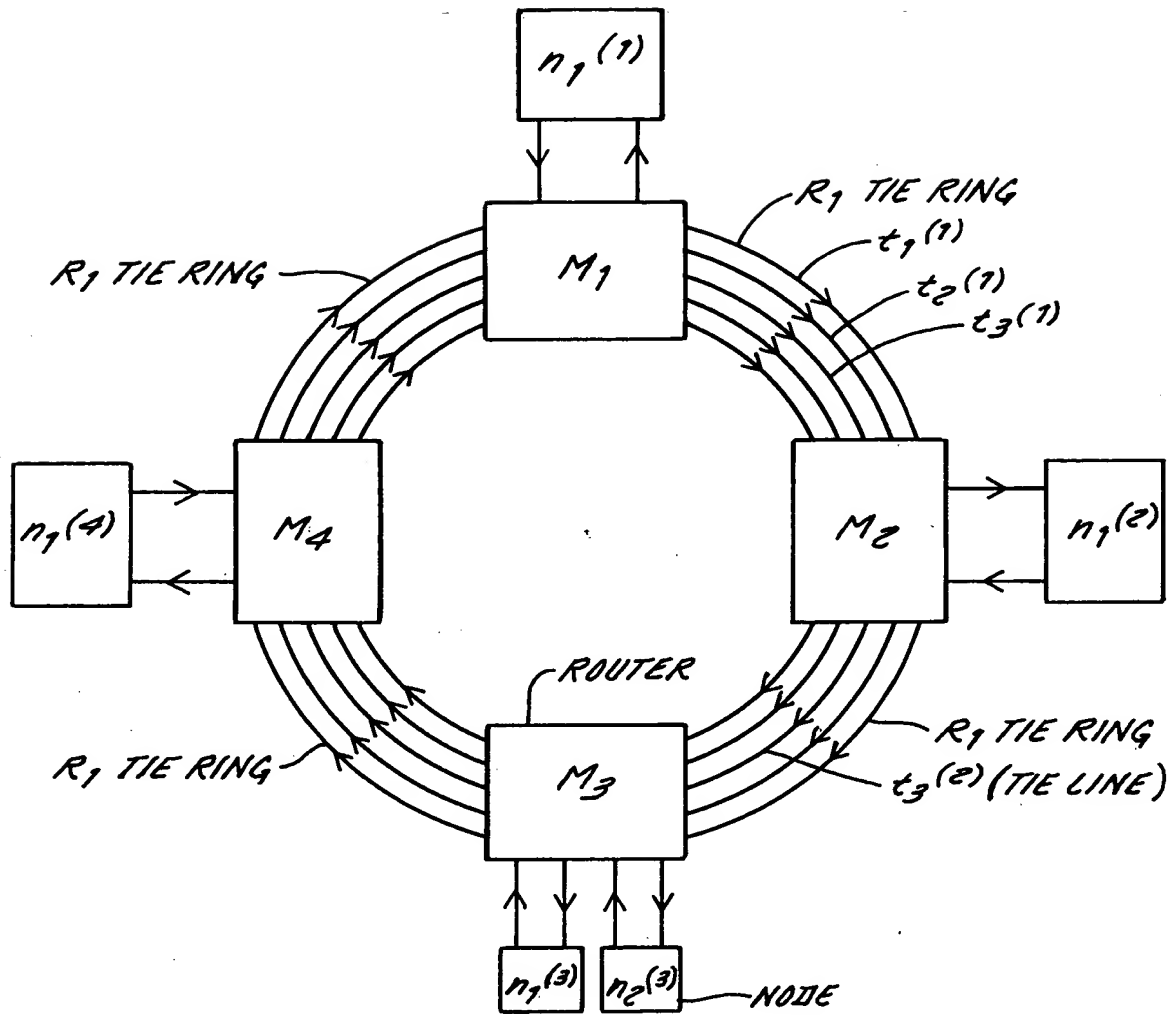
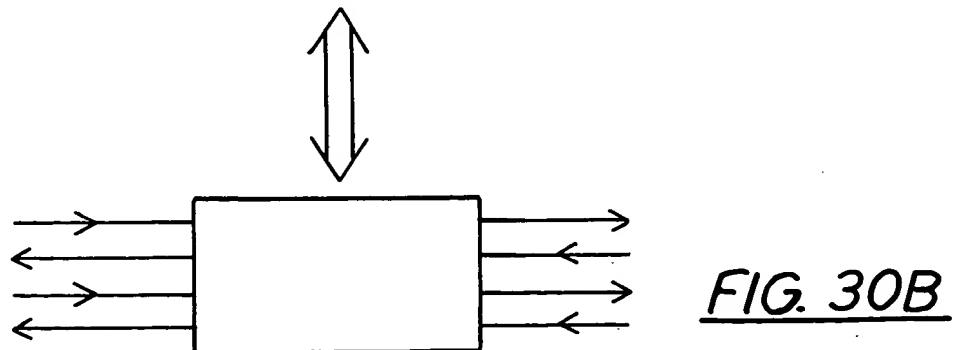
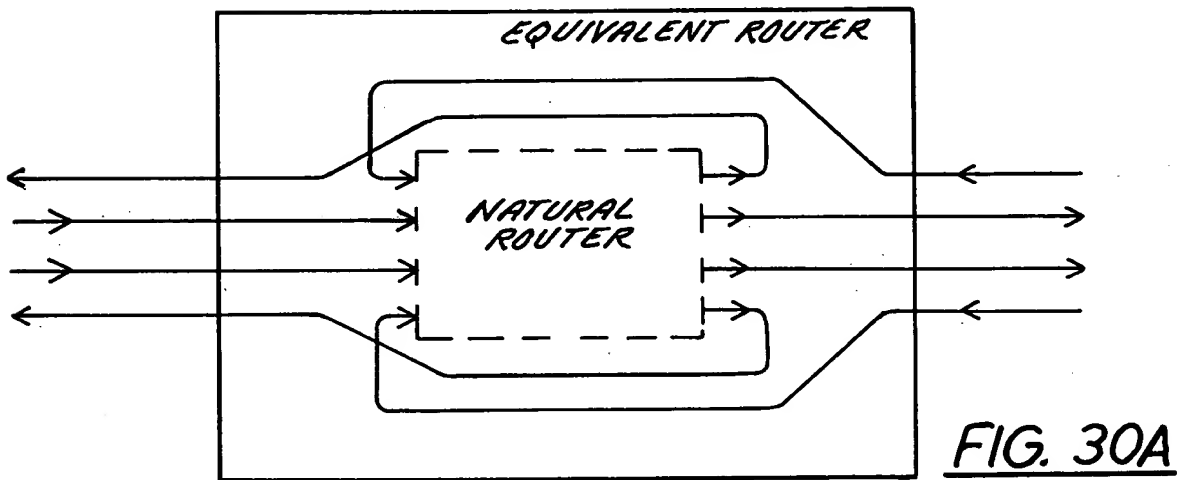
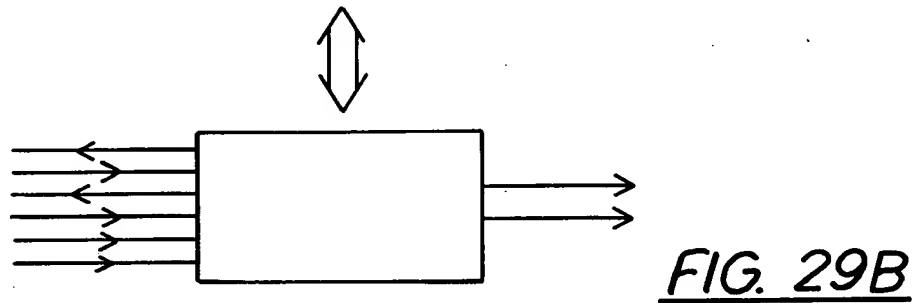
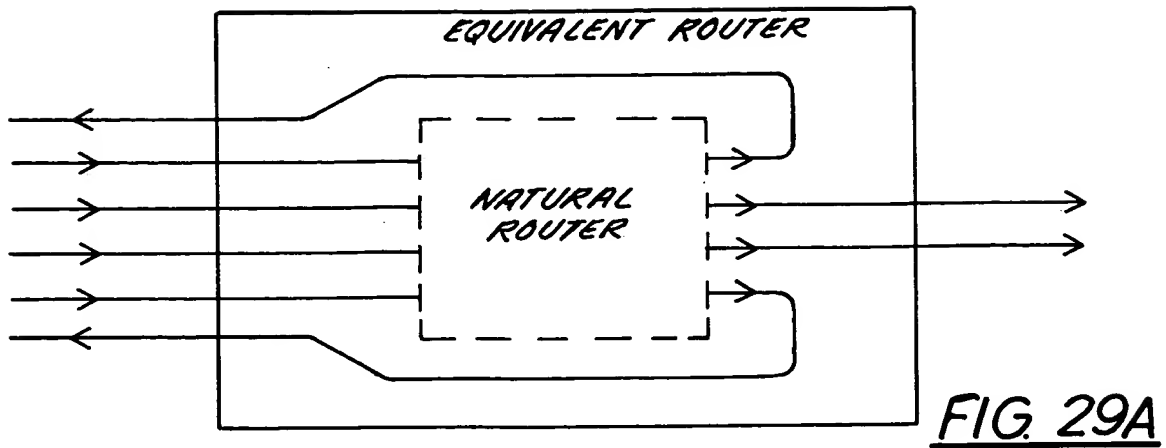


FIG. 28



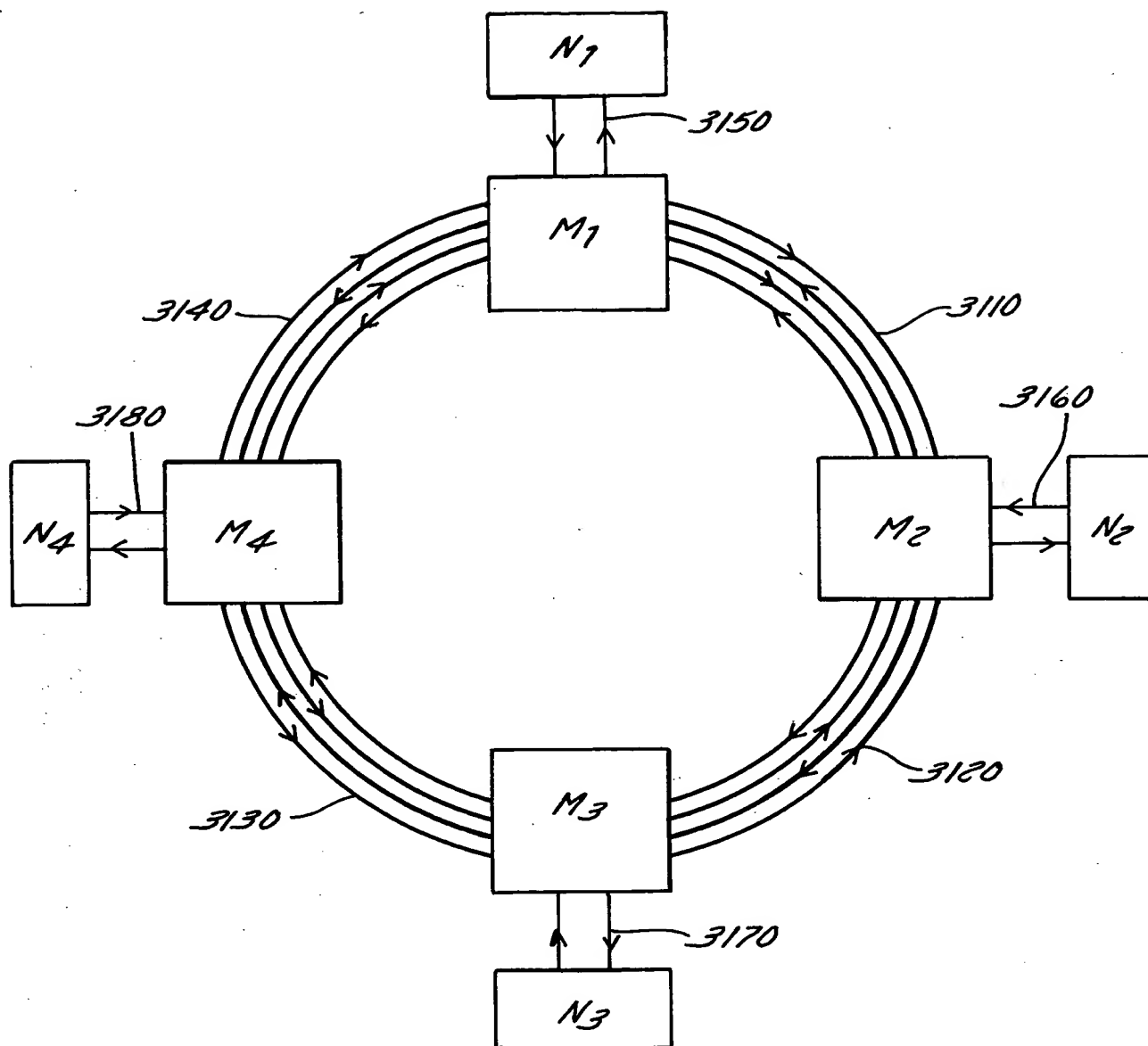


FIG. 31

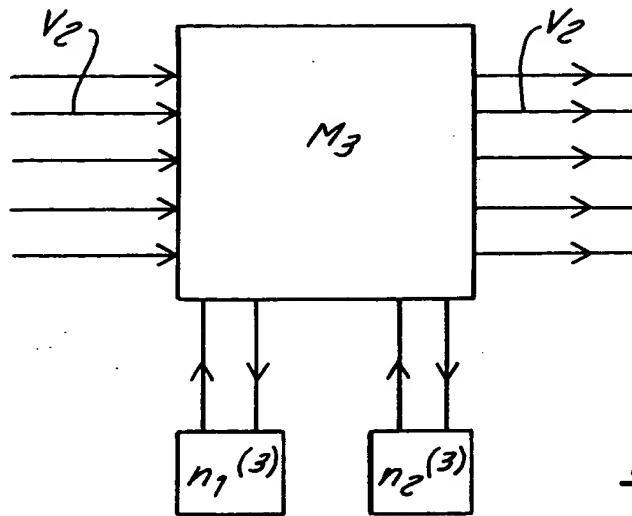


FIG. 32A

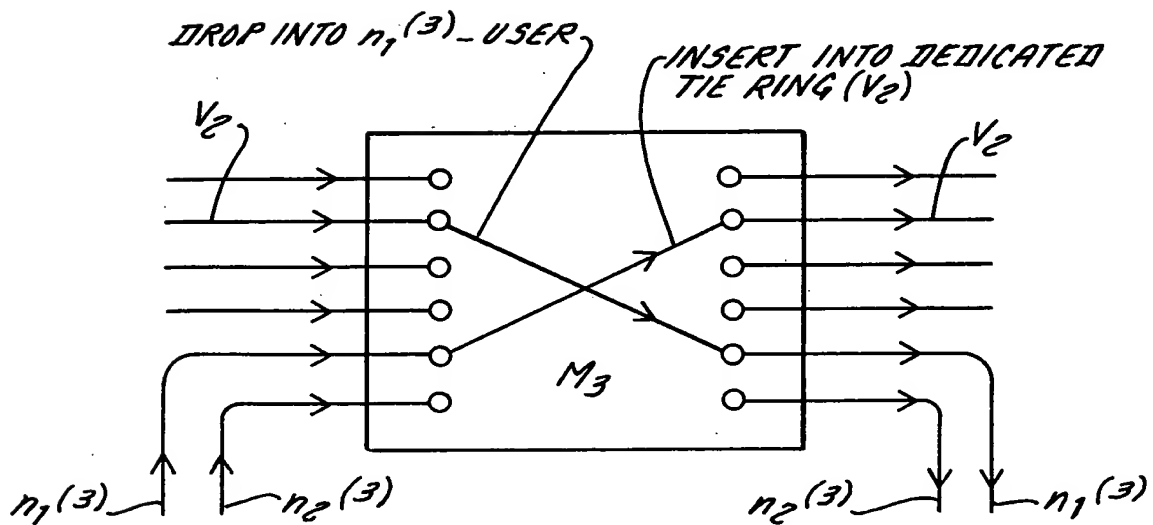


FIG. 32B

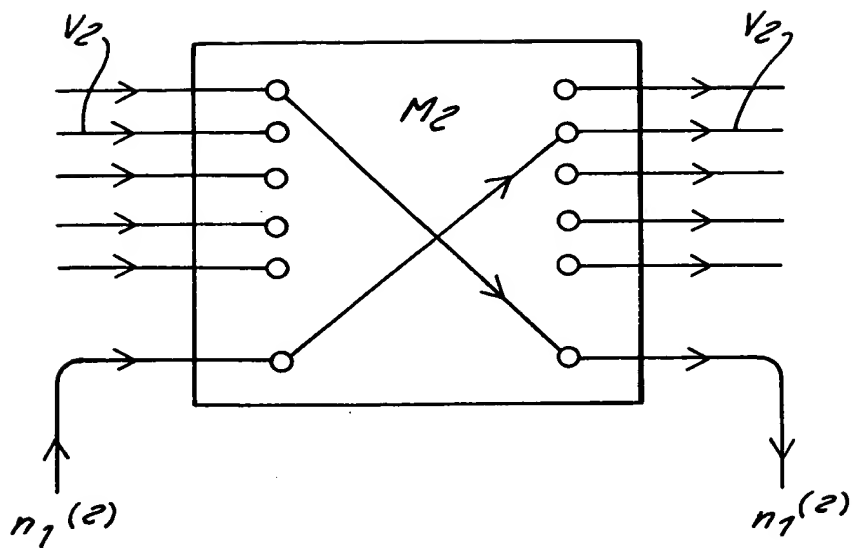


FIG. 32C

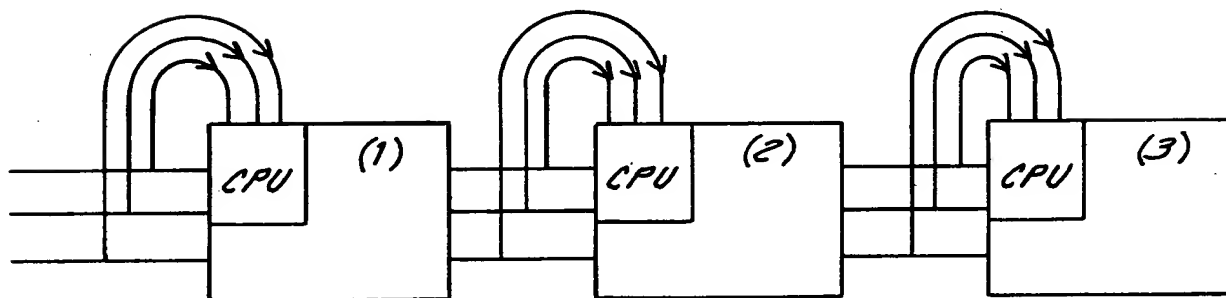


FIG. 32D

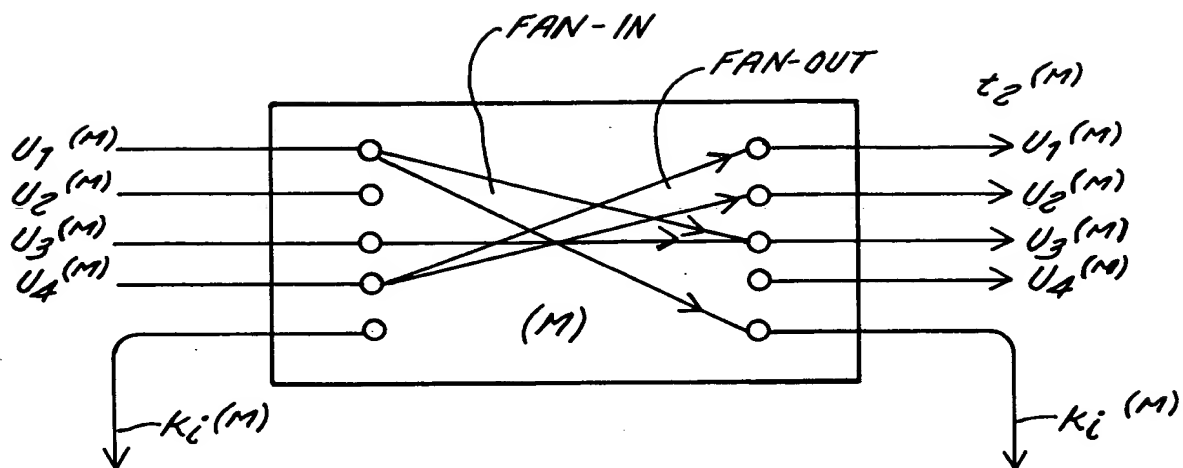


FIG. 33

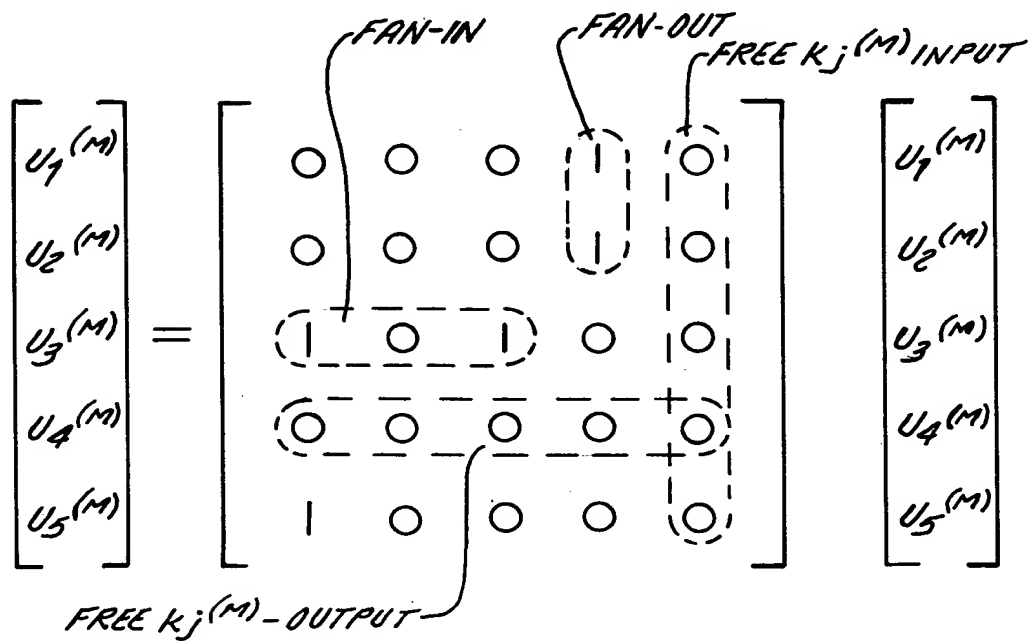


FIG. 34

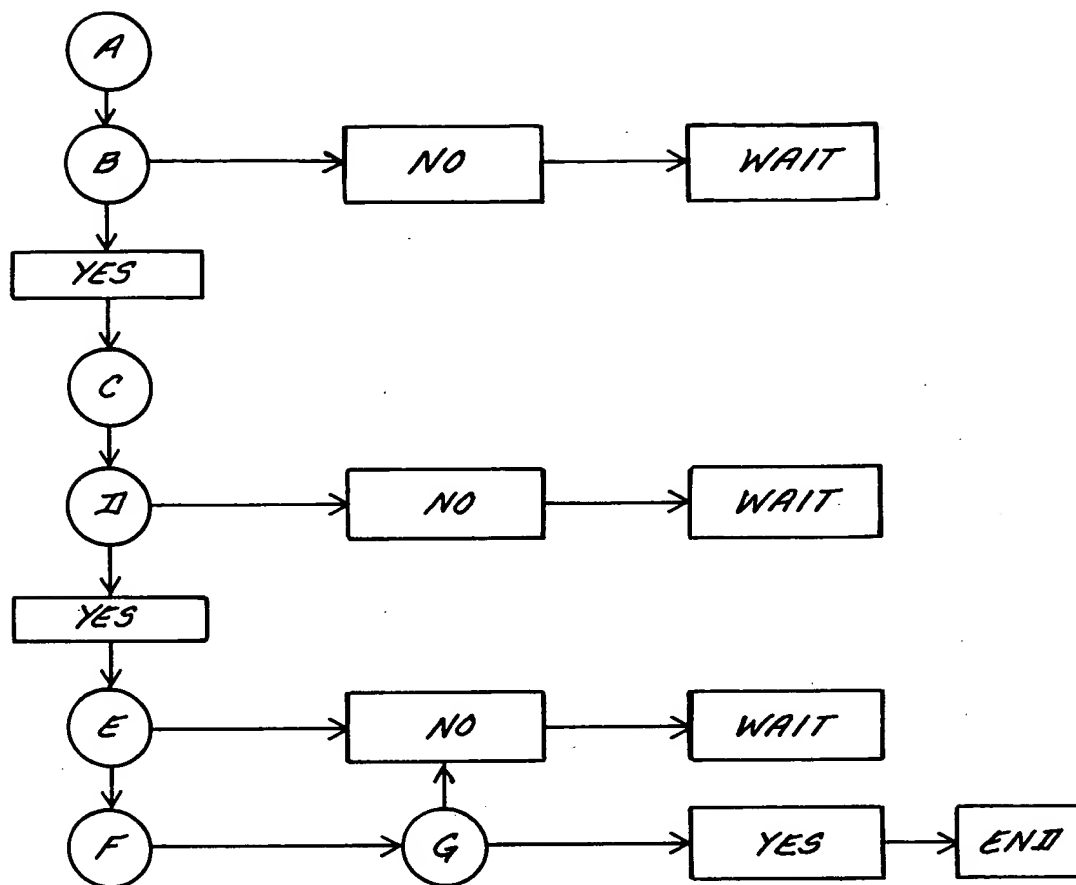


FIG. 35

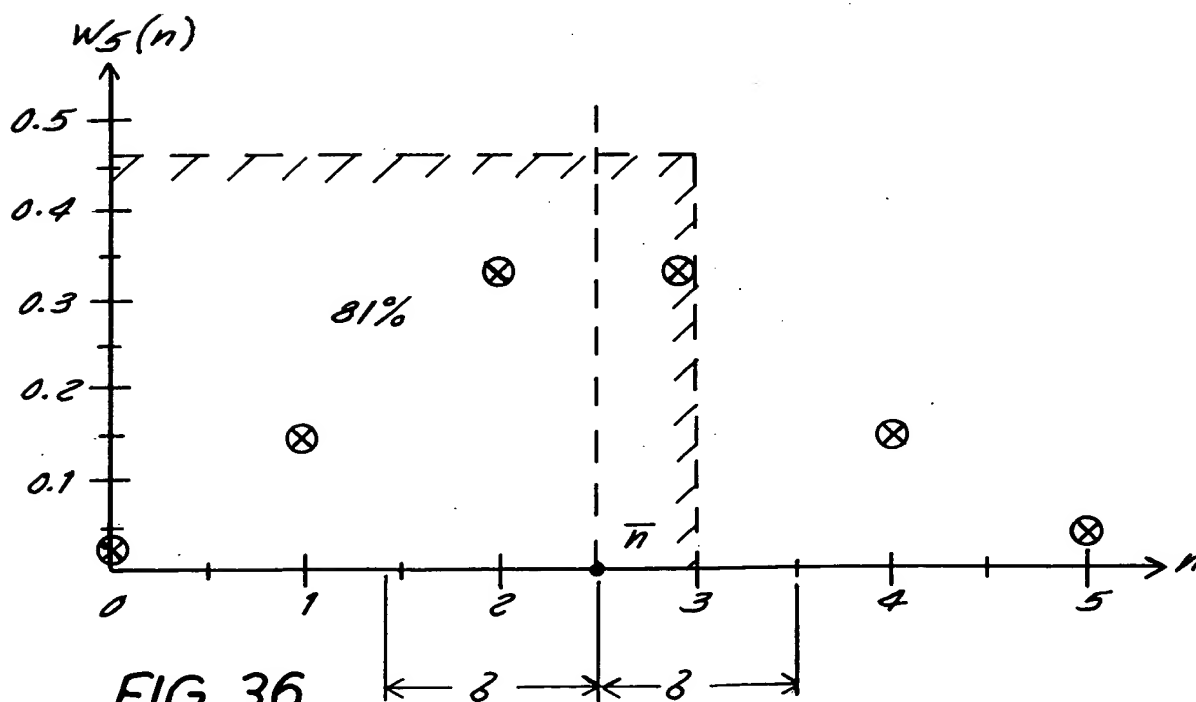


FIG. 36

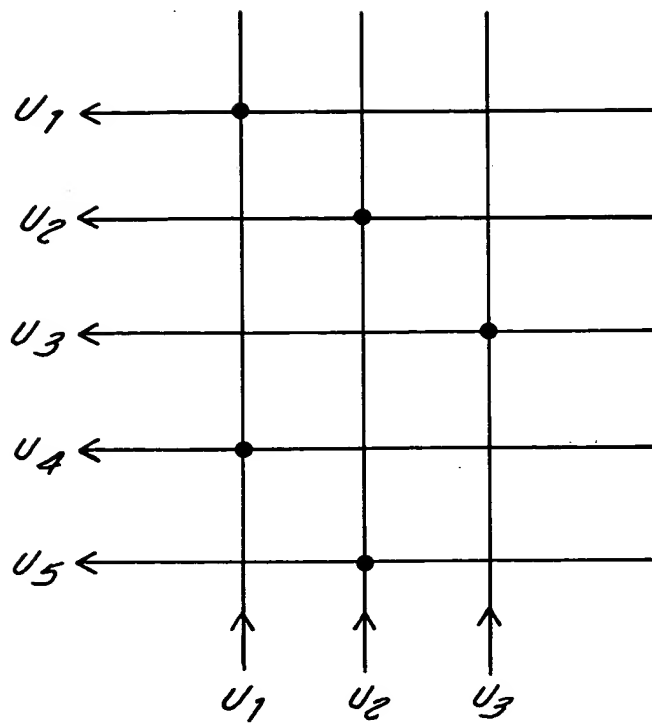


FIG. 37

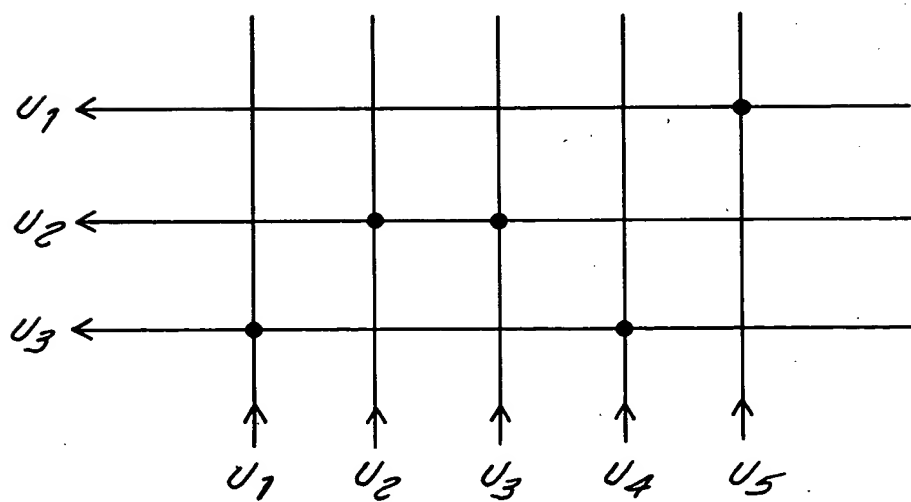


FIG. 38

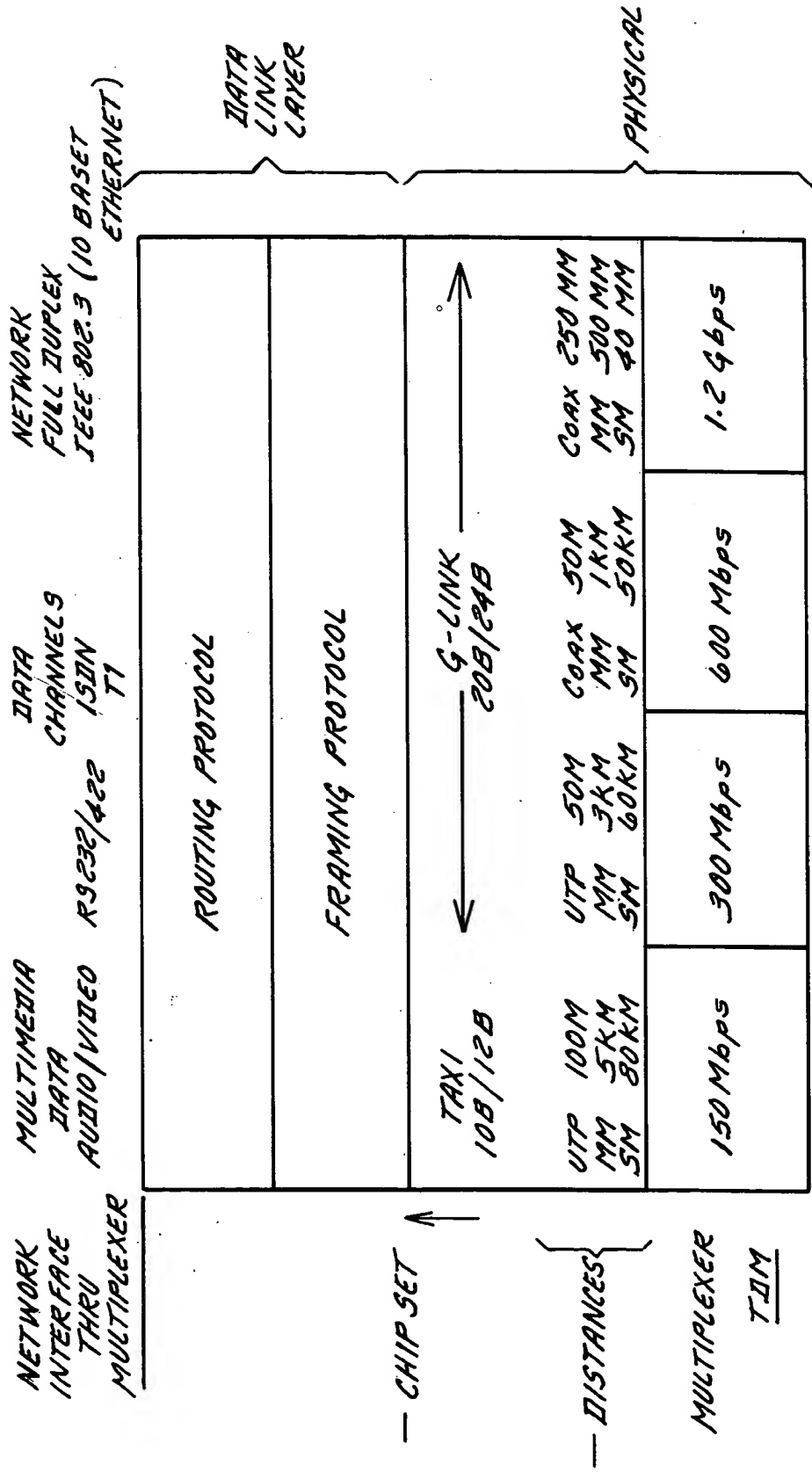


FIG. 39

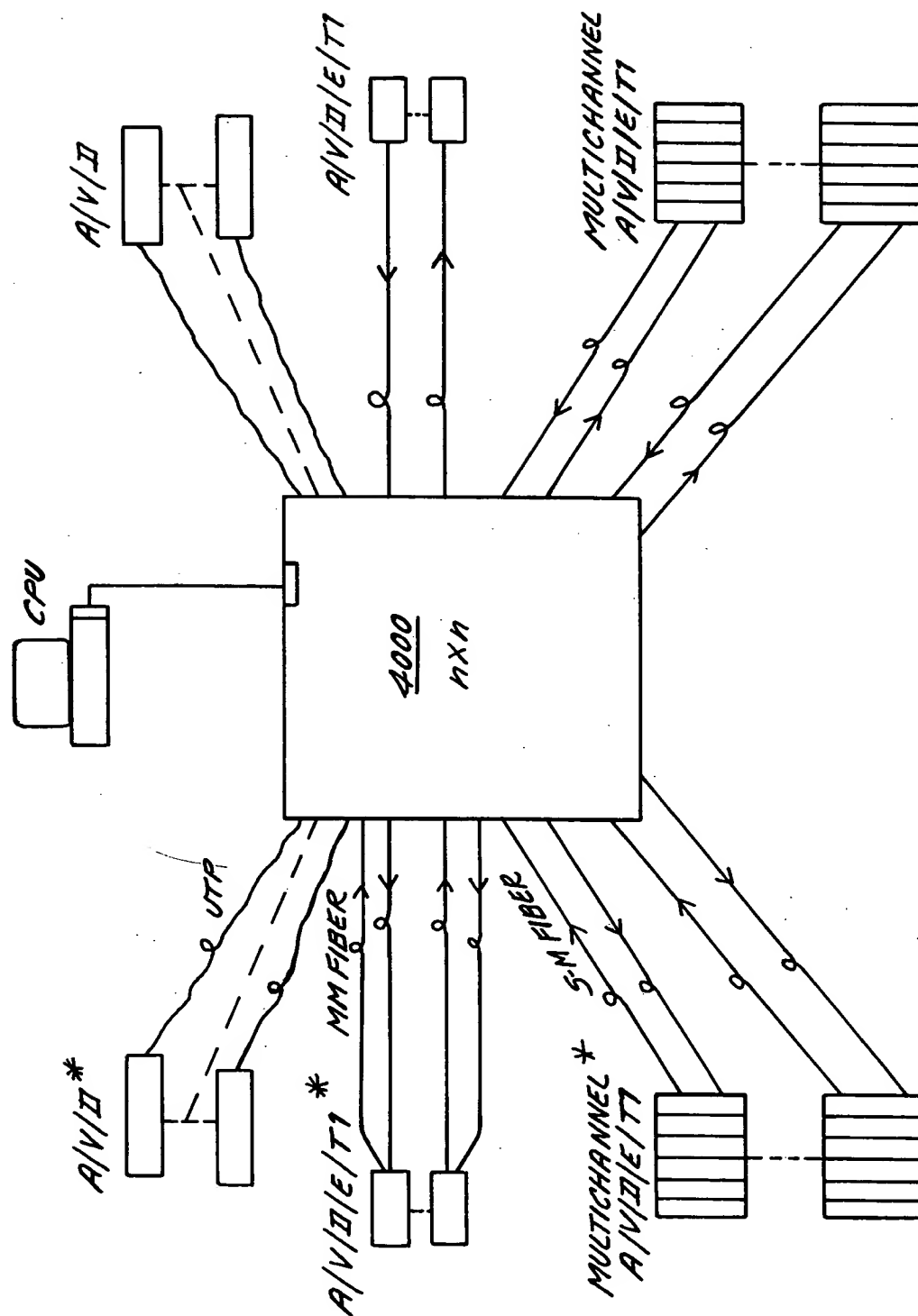


FIG. 40

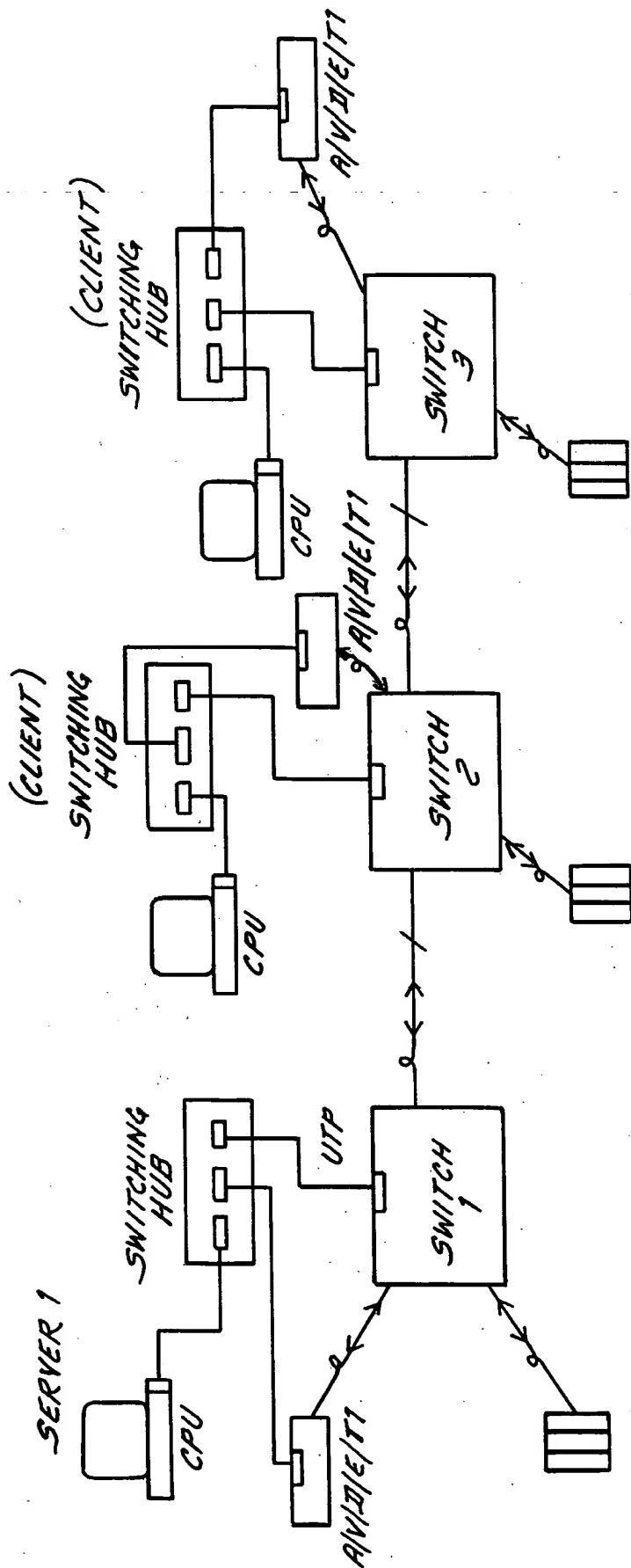
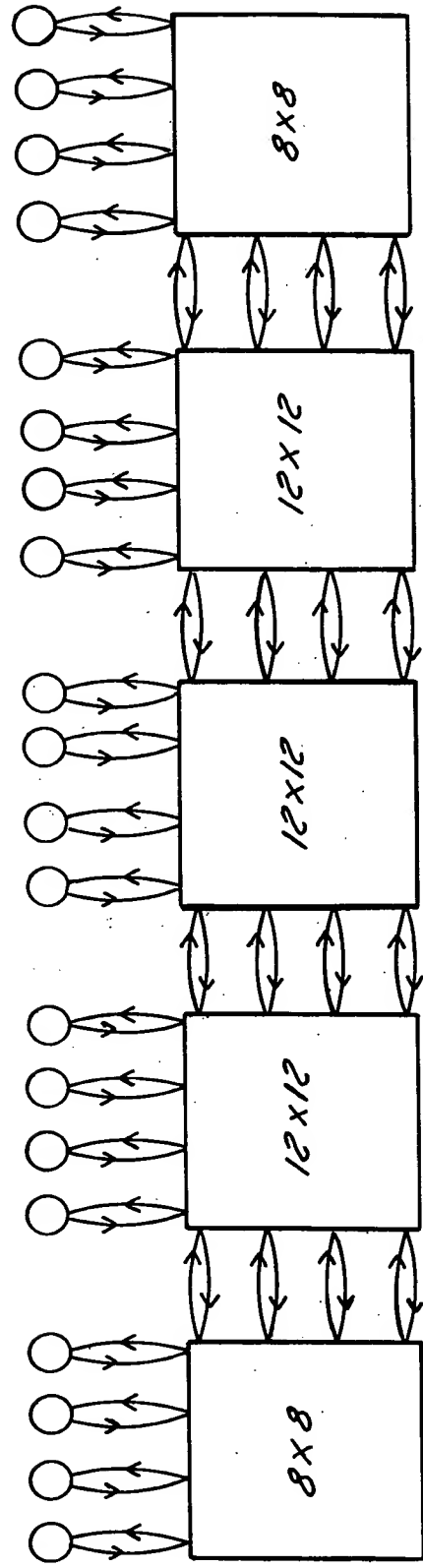
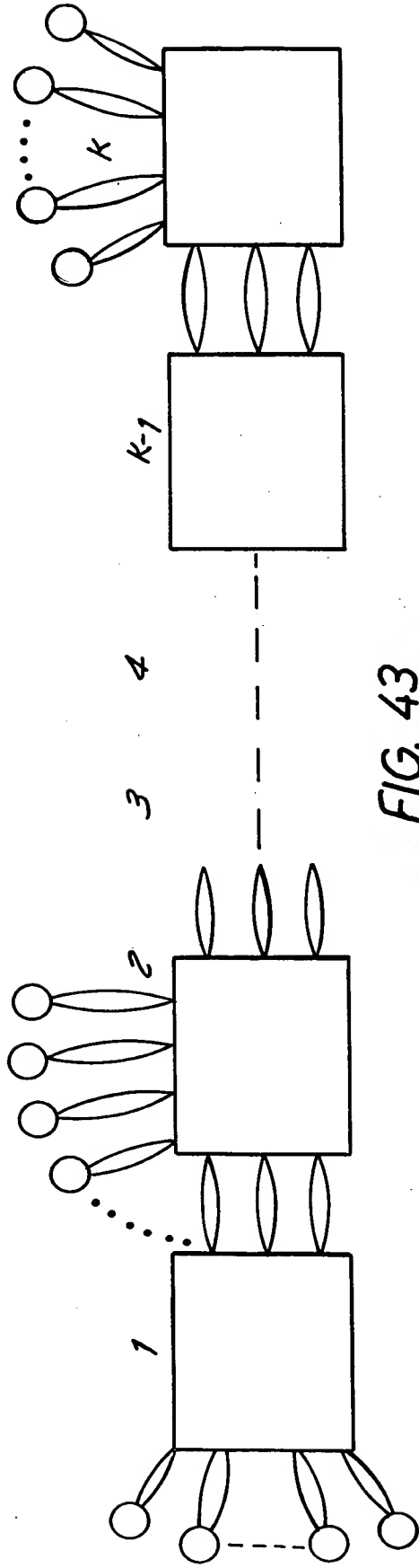


FIG. 42



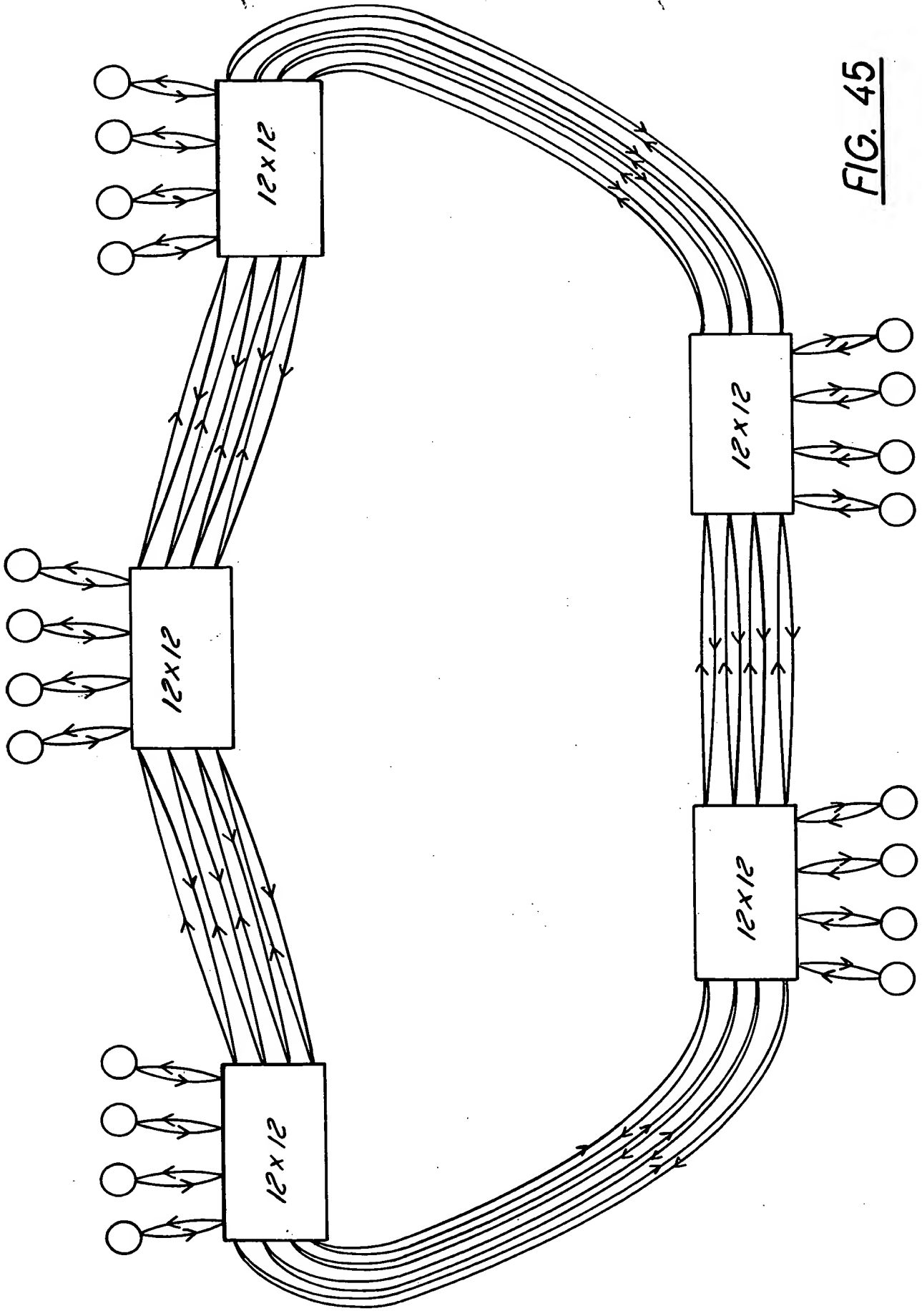


FIG. 45

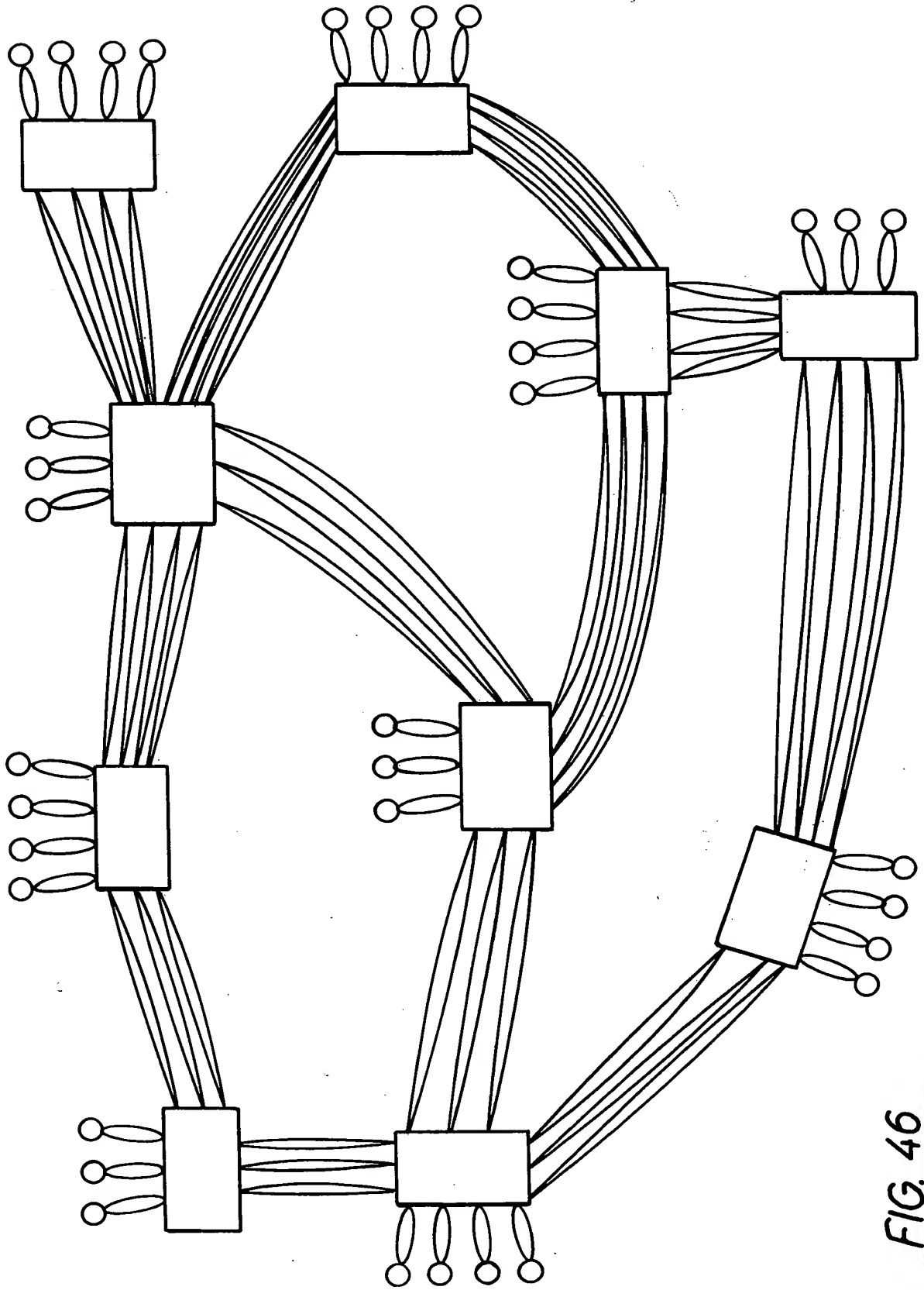


FIG. 46